

A SIMPLE MANAGEMENT ACCOUNTING MODEL FOR PROCESSED FOOD FARMER GROUPS TO SUPPORT VILLAGE FOOD SECURITY (CASE STUDY: BANDAR SETIA VILLAGE)

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Abstract

This study aims to develop a simple management accounting model for food processing farmer groups in Bandar Setia Village to support village food security. Many farmer groups lack manual financial record-keeping, fail to separate business and personal finances, and lack structured financial reporting, thereby hindering effective planning and decision-making. The study employs a qualitative descriptive approach with a case study design involving 80 members of food processing farmer groups in Bandar Setia Village. Data were collected through observation, interviews, document analysis, and focus group discussions (FGD). The results indicate that financial record-keeping practices are inconsistent and rely solely on memory, making it difficult to monitor costs, determine product prices, and evaluate business performance. Based on these findings, a simple management accounting model was designed, incorporating cash receipt and expenditure recording (via a general cash book), production cost calculations, cost of goods manufactured calculations, and pricing guidelines. The proposed model is practical, easy to implement using accessible language, and tailored to the specific needs and capabilities of the farmer groups. Implementation of this model is expected to improve financial management, support managerial decision-making, enhance business sustainability, and strengthen village food security through more effective management of local food resources.

Keywords: Management Accounting, Farmer Groups, Food Processing, Food Security, Financial Recording.

INTRODUCTION

Village food security is one of the main pillars supporting national food security and local economic resilience. Rural areas possess substantial potential through agriculture and food-processing activities, particularly via farmer groups that transform agricultural products into value-added commodities. These activities contribute not only to food availability but also to increasing rural household income. National agricultural census data indicate that approximately 28.4 million agricultural household units operate across Indonesia, with the majority consisting of small-scale farmers cultivating less than 0.5 hectares. Although about 73.14% of villages are agriculture-based, only 3.98% are classified as food self-sufficient villages, highlighting weaknesses in village-level food security that require stronger community empowerment and business management. Food-processing farmer groups play an important role in increasing the value of agricultural commodities, creating employment, and improving rural incomes. However, business success depends not only on production capacity but also on effective organizational management. Management accounting provides financial information to support planning, control, evaluation, and decision-making. Without an adequate accounting system, business decisions are often based on intuition rather than objective financial information.

Management accounting differs from financial accounting because it is intended primarily for internal decision-making. It assists managers in calculating production costs, determining selling prices, controlling operating costs, evaluating profitability, and planning business development. Nevertheless, conventional management accounting systems are often considered too complex and costly for small rural enterprises. Consequently, many farmer groups either maintain only very simple records or do not keep financial records at all, reducing transparency, accountability, and access to financing. Previous studies have mainly emphasized compliance with financial accounting standards, financial reporting, and bookkeeping training for MSMEs and community enterprises. Although these studies demonstrate improvements in bookkeeping skills, they rarely optimize accounting information for managerial decision-making. Research specifically developing a simple management accounting model for food-processing farmer groups remains limited. Another research gap concerns the relationship between management accounting and village food security. Existing studies focus primarily on business performance and

financial accountability, whereas management accounting can also strengthen production planning, inventory control, pricing decisions, and resource allocation, thereby supporting food availability, accessibility, utilization, and stability. Bandar Setia Village was selected because it has active food-processing farmer groups but still relies on very simple financial management. Preliminary interviews revealed the absence of systematic bookkeeping, periodic financial reporting, and accounting training. Selling prices are determined mainly from estimated costs and market prices without detailed production cost calculations, while budgeting and profit evaluation remain informal.

This study addresses these issues by developing a simple management accounting model specifically designed for rural food-processing farmer groups. The proposed model integrates basic management accounting concepts, including raw material costs, labor costs, overhead costs, cost of goods manufactured, and simple income statements using language that is practical and easy for users to understand. The novelty of this research lies in developing a context-specific management accounting model based on the real needs of food-processing farmer groups in Bandar Setia Village. The model integrates cost information, budgeting, and production decision-making adapted to seasonal conditions. Theoretically, the study extends the application of management accounting to community-based agricultural organizations. Practically, it is expected to improve financial management, support local government capacity-building programs, and strengthen village food security through better managerial decision-making and organizational sustainability. Therefore, this study aims to develop and implement a simple management accounting model for food-processing farmer groups in Bandar Setia Village to enhance managerial decision-making, financial accountability, and sustainable village food security.

LITERATURE REVIEW

1. Management Accounting in Farmer Groups

Management accounting provides financial information that supports planning, control, decision-making, and performance evaluation within an organization. Unlike financial accounting, it focuses on the needs of internal users to improve organizational effectiveness (Hansen et al., 2021). In farmer groups, management accounting helps determine production costs, set selling prices, prepare budgets, and evaluate business performance. However, conventional accounting systems are often too complex for rural communities due to limited accounting knowledge and resources. Therefore, a simplified management accounting model tailored to the characteristics of farmer groups is essential to improve financial management and support sustainable business development.

2. Village Food Security and the Role of Food-Processing Farmer Groups

Village food security constitutes a fundamental element of national food security because rural communities remain the primary producers and processors of agricultural commodities. According to the Food and Agriculture Organization (FAO), food security is achieved when all people have physical, social, and economic access to sufficient, safe, and nutritious food that satisfies their dietary needs and food preferences at all times (FAO, 2023). This concept encompasses four interconnected dimensions: food availability, food accessibility, food utilization, and food stability. Food-processing farmer groups contribute significantly to strengthening village food security by increasing the economic value of agricultural products through processing activities. Instead of selling raw agricultural commodities, farmer groups create processed products with higher market value, thereby increasing household income, generating employment opportunities, and enhancing local economic resilience.

Nevertheless, the sustainability of these enterprises depends not only on production capability but also on effective managerial practices. Weak financial management often limits farmers' ability to monitor operational costs, evaluate profitability, and make evidence-based business decisions. Consequently, strengthening managerial capacity through simplified accounting systems has become increasingly important in supporting sustainable rural development and village food security.

3. Previous Studies on Management Accounting for Farmer Groups

Previous research has extensively examined the application of accounting within micro, small, and medium-sized enterprises (MSMEs). Rahmawati et al. (2022) found that many MSMEs still struggle to prepare financial statements in accordance with accounting standards due to a lack of accounting knowledge and limited human resources. Their study highlighted the importance of accounting education but focused more on financial reporting than on managerial decision-making.

Similarly, Prasetyo and Wulandari (2023) demonstrated that bookkeeping training significantly improved transaction recording practices among MSMEs. However, the training did not substantially enhance business owners' ability to utilize accounting information for production planning, budgeting, or strategic decision-making. These

findings indicate that bookkeeping alone is insufficient to improve organizational management. Furthermore, Siregar et al. (2024) investigated accounting training programs for community business groups and concluded that participants demonstrated improved financial administration skills following the training. Nevertheless, the accounting practices implemented remained limited to recording cash receipts and expenditures, without extending to cost management, budgeting, inventory control, or performance evaluation. Overall, these studies indicate that prior research has largely focused on bookkeeping, financial reporting, and accounting compliance. Little attention has been paid to developing management accounting systems that serve as practical decision-support tools for rural agricultural organizations.

4. Theoretical Foundation

4.1 Grand Theory: Decision Theory

Decision Theory explains that every managerial decision should be based on relevant, accurate, and timely information. Effective decision-making depends not only on the experience of decision-makers but also on the quality of the information available. In organizational and business contexts, such information serves as the basis for selecting the most effective alternative to achieve predetermined objectives. According to Simon (1977), the decision-making process consists of three main stages: intelligence, design, and **choice**. The intelligence stage involves identifying the problems faced by an organization. The design stage focuses on developing various alternative solutions, while the choice stage involves selecting the best alternative based on the available information. In food-processing farmer groups, daily decisions such as determining production volume, setting selling prices, purchasing raw materials, controlling operational costs, and allocating profits require accurate financial information. Without a proper recording system, business decisions tend to rely on estimates, increasing the risk of inefficiency and financial losses. Therefore, implementing a simple management accounting model provides financial information that serves as a reliable basis for decision-making. Information regarding cash inflows, cash outflows, production costs, cost of production, and business profits enables farmer groups to formulate more effective business strategies, improve resource management efficiency, and support business sustainability as well as village food security.

4.2 Middle Theory: Management Accounting Theory

Management accounting is a branch of accounting that focuses on providing information for internal users to support planning, controlling, decision-making, and performance evaluation. Unlike financial accounting, which prepares reports primarily for external stakeholders, management accounting produces flexible information tailored to management's specific needs.

According to Hansen and Mowen (2021), management accounting is the process of identifying, measuring, analyzing, interpreting, and communicating information used by management in planning, controlling, and decision-making activities. Similarly, Horngren et al. (2021) state that management accounting helps organizations achieve their objectives by providing information on costs, revenues, profits, and operational performance.

4.3 Applied Theory: Simple Management Accounting Model

A simple management accounting model represents the practical application of management accounting concepts tailored to the characteristics of micro-enterprises, small businesses, and farmer groups. The model is designed to be easy to understand and implement by individuals who do not possess formal accounting knowledge. This model emphasizes systematic yet uncomplicated transaction recording, enabling users to obtain the financial information needed for day-to-day business management. Its implementation aims to improve the financial management capabilities of farmer groups, enhance cost control, and measure business profitability.

The main components of the simple management accounting model include:

4.3.1 Cash Receipts Book

The Cash Receipts Book is used to record all cash inflows received by the farmer group, including revenue from processed food sales, business capital contributions, government assistance, and other sources of income.

The benefits of maintaining a Cash Receipts Book include:

1. monitoring total business income;
2. facilitating the preparation of financial reports;
3. controlling cash inflows.

4.3.2 Cash Payments Book

The Cash Payments Book records all business expenditures, including purchases of raw materials, labor costs, transportation expenses, electricity, packaging, and other operational costs. This record enables farmer groups to monitor total expenditures and improve cost control more effectively.

4.3.3 Production Cost Calculation

Production cost refers to all expenses incurred in producing processed food products. Production costs consist of:

1. raw material costs;
2. direct labor costs;
3. manufacturing overhead costs.

Production cost information is essential for calculating the cost of production, which serves as the basis for determining an appropriate selling price.

4.3.4 Selling Price Determination

The selling price is the amount charged to customers for the products produced. Selling prices are determined based on the calculated production cost while considering the desired profit margin.

The formula can be expressed as follows:

$\text{Selling Price} = \text{Cost of Production} + \text{Profit Margin}$

Determining an appropriate selling price enhances product competitiveness while ensuring sufficient profitability for the farmer group.

4.3.5 Simple Income Statement

A simple income statement is used to measure business performance over a specific accounting period.

Its main components include:

1. total revenue;
2. total expenses;
3. net profit or loss.

The resulting profit or loss information serves as the basis for evaluating business performance and planning future business development strategies.

4.4 Relationship Between Theory and the Research

This study is grounded in Decision Theory, which argues that business decisions should be supported by accurate and reliable information. Such information is generated through the implementation of management accounting, which provides data on costs, revenues, profits, and cash flows. These theoretical concepts are operationalized through a simple management accounting model specifically designed to meet the characteristics and needs of food-processing farmer groups in Bandar Setia Village. The implementation of this model is expected to improve the ability of farmer groups to maintain financial records, calculate production costs, determine appropriate selling prices, evaluate business profitability, and make more informed business decisions. Improved business management is anticipated to increase productivity, income, and business sustainability, thereby making a significant contribution to strengthening village food security.

METHOD

This study employed a qualitative descriptive approach using a case study method focusing on a food-processing farmer group in Bandar Setia Village, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra, Indonesia. This approach was selected because it provides an in-depth understanding of the actual conditions of business management within the farmer group, particularly concerning management accounting practices, cost information requirements, and production decision-making processes implemented in daily business operations. The case study method enables researchers to obtain a comprehensive understanding of the challenges encountered by the farmer group, thereby ensuring that the proposed model is developed in accordance with the needs and characteristics of the research object.

Data were collected through semi-structured interviews, field observations, and document analysis. Semi-structured interviews were conducted with the head of the farmer group and members directly involved in production activities and business management. Field observations were carried out to examine production processes,

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transaction recording systems, production cost determination, and decision-making mechanisms. In addition, document analysis was conducted using raw material purchase receipts, transaction records, and other supporting documents related to the business activities of the farmer group. Besides primary data, this study also utilized secondary data obtained from scientific literature, government reports, and relevant regulations related to management accounting, farmer groups, and village food security.

The research began by identifying key issues associated with production cost management, business planning, financial record-keeping, and selling price determination as practiced by the food-processing farmer group. The identified problems were subsequently analyzed to determine the management accounting information required to support managerial decision-making, particularly information related to production costs, business profitability, and capital availability. Based on the results of this analysis, a simple management accounting model was developed to accommodate the operational characteristics and human resource capabilities of the farmer group. The proposed model consists of cash receipts and cash disbursements recording through a general cash book, production cost classification, cost of goods manufactured (COGM) calculation, simple budgeting, and practical guidelines for determining selling prices that are easy for farmer group members to understand and implement.

The proposed model was subsequently evaluated descriptively through discussions with the research participants to assess its usability, compatibility with the operational conditions of the farmer group, and its potential benefits in supporting production decision-making. Data analysis was conducted using the interactive analysis model of Miles, Huberman, and Saldaña (2014), which consists of data condensation, data display, and conclusion drawing and verification. Through these stages, this study is expected to produce a practical and applicable simple management accounting model that can be easily implemented by food-processing farmer groups, improve business management efficiency, and contribute to strengthening village food security in Bandar Setia Village in line with Indonesia's national development agenda, particularly the second pillar of the Asta Cita, which emphasizes the achievement of national food self-sufficiency.

RESULTS AND DISCUSSION

A. RESULTS

1. Characteristics of the Food Processing Farmer Group in Bandar Setia Village

The characteristics of the respondents in this study are presented based on gender, age, and length of membership in the farmer group. The presentation of these characteristics aims to provide a general overview of the members who served as the research subjects.

Table 1. Characteristics of Farmer Group Members by Gender

Gender	Number of Members	Percentage (%)
Male	48	60
Female	32	40
Total	80	100

Based on Table 1, it can be seen that the majority of the members of the Food Processing Farmer Group in Bandar Setia Village are male, accounting for 48 members (60%), while 32 members (40%) are female.

Table 2. Characteristics of Members by Age

Age	Number of Members	Percentage (%)
20–30 years	7	9
31–40 years	28	35
41–50 years	21	26
Over 50 years	24	30
Total	80	100

Based on Table 2, the results indicate that the farmer group is dominated by members aged 31–40 years, accounting for 28 members (35%). This age group represents individuals who are generally in their most productive years and actively involved in carrying out farming and food processing activities.

Table 3. Characteristics of Members by Length of Membership

Length of Membership	Number of Members	Percentage (%)
Less than 2 years	8	10
2–5 years	22	28
More than 5 years	50	63
Total	80	100

Based on Table 3, it is evident that the majority of the members have been part of the farmer group for more than five years, totaling 50 members (63%). This indicates that most members have considerable experience in carrying out the group's activities. Such experience serves as an important asset in implementing a simple management accounting system, improving financial record-keeping practices, and supporting better business decision-making.

2. Financial Record-Keeping Practices of the Farmer Group

The interview results indicate that the farmer group members do not yet have standardized financial record-keeping practices. Business transactions are generally not recorded systematically, and there is no separation between business finances and personal finances.

One of the group administrators stated:

"We usually rely on memory and rarely record cash inflows and outflows. We have never actually calculated how much profit we earn from each product. Sometimes, the business funds are also used for household expenses." (Interview with the Head of the Farmer Group, 2026)

This statement indicates that the group's financial record-keeping is not based on a simple cash flow system and does not yet support effective business decision-making. Furthermore, the documentation review revealed that the group has not prepared income statements, cash flow statements, or periodic production cost calculations.

3. Identification of Management Accounting Needs

Based on the observations and interviews, several key management accounting needs of the farmer group were identified, as presented below.

Table 1. Initial Observation Findings

No.	Accounting Need	Field Findings
1	Cash recording	Rarely carried out, and when performed, it is done in a very simple manner.
2	Separation of business and personal finances	Not yet implemented.
3	Production cost calculation	Not available.
4	Selling price determination	Still based on estimation.
5	Profit reporting	Not prepared on a regular basis.

These findings indicate that the farmer group requires a simple and practical accounting system that is easy to understand while being capable of generating reliable financial information to support business planning and control.

4. Development of a Simple Management Accounting Model

Based on the identified needs, this study developed a simple management accounting model consisting of five main components.

a. General Cash Book

The General Cash Book is used to record all cash receipts and cash payments. Cash receipts include revenue from product sales and business capital contributions, while cash payments include expenditures for raw materials, labor costs, packaging, transportation, and other operational expenses.

b. Production Cost Calculation

This model classifies production costs into three categories:

1) Raw material costs,

- 2) Labor costs, and
- 3) Simple overhead costs.

This classification enables the farmer group to determine the total production cost for each processed food product.

- c. Cost of Production (COP) Calculation

The cost of production is calculated by dividing the total production costs by the total number of products produced. This approach allows the group to determine selling prices more accurately and rationally, ensuring that all production costs are properly considered.

- d. Simple Income Statement

The model generates a simple income statement that provides information on total revenue, total expenses, and business profit for each accounting period. This report enables the group to evaluate business performance and make better financial decisions.

- e. User-Friendly Recording Format

The entire model is designed using simple tabular formats, making it easy for farmer group members to implement without requiring advanced accounting knowledge or technical expertise.

5. Model Validation Results

The proposed management accounting model was subsequently discussed with the farmer group's management to evaluate its practicality and applicability. The discussion results indicated that all components of the model were well understood by the group members because they employ simple terminology and recording formats that are consistent with their existing practices. The group administrators also stated that the model makes it easier to monitor production expenses, calculate business profits, and assess the group's cash position. Overall, the validation results suggest that the proposed model is practical, user-friendly, and suitable for supporting financial management in processed food farmer groups.

B. DISCUSSION

The findings of this study indicate that the primary challenge faced by the processed food farmer group in Bandar Setia Village is not related to production capability but rather to the lack of a financial information system that supports managerial decision-making. This condition makes it difficult for the group administrators to determine production costs, calculate business profits, and plan future business development. These findings are consistent with previous studies emphasizing that management accounting plays a crucial role in improving operational efficiency, cost control, and the quality of decision-making within farmer groups.

The simple management accounting model developed in this study demonstrates that useful financial information does not necessarily require a complex accounting system. Simplifying the recording format, separating business and personal finances, and preparing a simple income statement are sufficient to generate relevant financial information for business management. This approach also strengthens the administrative capacity of farmer groups, in line with recommendations from various community-based agro-industry development programs. From a theoretical perspective, this study reinforces the principles of management accounting, which emphasize cost information as the foundation for planning, controlling, and decision-making processes. However, the study offers a novel contribution by developing a management accounting model specifically designed to accommodate the characteristics and needs of village-scale processed food farmer groups. The proposed model functions not only as a financial recording tool but also as an empowerment instrument that can be easily implemented by group members with limited accounting knowledge and financial literacy. From a practical perspective, the model assists farmer groups in determining selling prices based on actual production costs, evaluating business profitability on a regular basis, preparing production plans, and improving transparency in financial management. The implementation of a simple recording system also enhances the group's accountability when applying for government assistance or financial support from banking and other financial institutions.

The findings of this study also have broader implications for strengthening food security. Effective financial management enables farmer groups to allocate resources more efficiently, improve the sustainability of processed food businesses, and increase the added value of local agricultural products. Consequently, the proposed model has the potential to be adapted by other farmer groups with similar business characteristics, thereby contributing to the development of community-based food security systems. Previous studies have likewise highlighted that strengthening farmer group institutions and improving managerial capacity are essential factors in achieving sustainable food security.

Nevertheless, this study has several limitations. First, the research was conducted on only one farmer group in Bandar Setia Village; therefore, the findings cannot be generalized to all farmer groups in Indonesia. Second, the proposed model is still based on a manual recording system, and its long-term effectiveness will require continuous assistance, monitoring, and evaluation. Future research is recommended to develop a simple digital application based on this model and to evaluate its implementation across farmer groups with diverse business characteristics and operational environments

CONCLUSION

This study aimed to develop a simple management accounting model for processed food farmer groups in Bandar Setia Village to support better business management and strengthen village food security. The findings revealed that the primary challenge faced by the farmer group was not production capability but the absence of an effective financial recording system. As a result, the group experienced difficulties in calculating production costs, determining selling prices, measuring business profits, and making appropriate managerial decisions. Based on these findings, a simple management accounting model was developed, consisting of a General Cash Book for recording cash receipts, a Cash Disbursement Book, Production Cost Calculation, Selling Price Determination, and a Simple Income Statement. The model is easy to understand and implement, making it suitable for farmer groups with limited accounting knowledge. It provides relevant financial information to support planning, cost control, performance evaluation, and managerial decision-making.

The implementation of this model is expected to enhance the financial management capacity of processed food farmer groups, improve business efficiency and profitability, and contribute to the sustainability of rural enterprises. In the long term, better financial management is expected to strengthen the resilience and competitiveness of farmer groups while supporting village food security. For future development, the model can be enhanced by integrating digital bookkeeping applications or mobile-based accounting systems, providing continuous training and technical assistance for farmer group members, and expanding its implementation to other farmer groups and rural micro-enterprises. Further studies are also recommended to evaluate the model's effectiveness using quantitative methods and to assess its long-term impact on business performance and food security.

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