

# Financial Recording Training at Rahayu Fisheries, Semarang Regency

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**Abstract.** This community service activity was carried out at the Rahayu Fisheries Group in Semarang Regency, Central Java, which operates in freshwater fish farming. The main problem faced by partners was a weak financial recording system that caused difficulties in managing cash flow, determining the cost of production, and calculating business profits and losses. The objective of this activity was to improve the financial management skills of business actors through simple financial recording training based on the needs of the fisheries sector. The implementation method included problem identification, participatory training, technical assistance, and evaluation of results. The results of the activity showed a significant increase in participants' understanding and skills in financial recording, with 90% of participants starting to implement a daily recording system based on cash transactions. This improvement also impacted the ability of business actors to plan and control operational costs. This activity is a tangible form of synergy between universities and the community in developing professional and sustainable fisheries-based MSMEs.

**Keywords:** Training, Financial Recording, Fisheries, Community Empowerment, MSMEs

## Introduction

Semarang Regency is one of the regions with significant potential in the freshwater fisheries sector. According to data from the Central Java Maritime Affairs and Fisheries Agency (2024), freshwater fish production in this region reaches over 8,000 tons per year, providing a livelihood for over 1,500 fish farming households. However, most fish farming groups still operate traditional businesses without adequate financial records. This situation results in weak managerial skills and difficulties in economic decision-making.

As Yusuf (2025) noted, the main challenge in fish farming is high production costs, particularly feed, which accounts for over 60% of total costs. Without a sound financial recording system, fish farmers find it difficult to identify cost savings. Napitupulu (2025) added that unstructured financial management makes it difficult for business owners to control cash flow and accurately measure business efficiency.

On the other hand, improving public financial literacy is a crucial strategy for strengthening the local economy. According to Kinasih et al. (2025), sound financial management in MSMEs not only increases profitability but also opens up opportunities for financing and collaboration with external parties. Therefore, financial record-keeping training for the Rahayu Fisheries Group was designed to address this pressing need.

This activity is expected to raise awareness of the importance of financial recording and provide practical skills in preparing simple financial reports, so that business actors are able to manage their businesses professionally and sustainably.

## Literature Review

The basic concept of accounting in MSMEs explains that recording financial transactions is carried out to determine the financial position periodically, including information regarding income, costs, assets, and liabilities (Maryanto, 2019 in *MSME Dynamics* . In the context of fisheries MSMEs, the financial recording system functions to monitor production cost efficiency and determine business development strategies.

Research by Napitupulu (2025) on the "Taruli" fish farming MSME showed that simple financial record-keeping training can reduce production costs by up to 35% and increase business independence. Yusuf (2025) found that training activities accompanied by technical assistance can change participants' behavior in managing finances due to the experiential learning process.

Furthermore, Kinasih et al. (2025) emphasize the importance of a balance between financial and human capital using the *Five Capitals approach* . Financial record-keeping training is included in human capital strengthening, which has a direct impact on business sustainability. According to

community empowerment theory (Chambers, 1997), increasing local capacity is a key step in creating sustainable socio-economic change.

Thus, financial recording training in fisheries groups not only strengthens the financial aspect, but also increases the social capacity and economic independence of coastal and rural communities.

### **Method**

This community service activity was implemented using a participatory approach, which places the community as the primary subject in the learning process. This approach was chosen because financial recording training will be more effective if participants are directly involved in every stage of the activity, from problem identification and training implementation to outcome evaluation. The participatory approach also allows for two-way knowledge transfer between the service team and the community, as suggested by Yusuf (2025) who argued that a dialogic training process can increase community awareness and economic independence.

### **Location and Time of Implementation**

The program was implemented at the Rahayu Fisheries Group in Jimbaran Village, Bringin District, Semarang Regency, Central Java. This location was chosen because it is a relatively active freshwater fish farming center, but the group's financial management is still rudimentary and lacks a structured recording system. The program lasted for three months, starting in July and ending in September 2025, with meetings once a week for two hours. There were a total of eight training sessions and two evaluation sessions.

### **Subject and Target of Activities**



The training involved 20 participants, consisting of pond owners, operational staff, and family members involved in the fisheries business. Participants were selected purposively based on their role in the group's financial management. Participant criteria included:

1. Actively involved in fish farming activities for at least one year.
2. Does not yet have a formal financial recording system.
3. Willing to take part in the entire series of activities from start to finish.

Women's participation is also encouraged because most of the financial administration activities of households and small businesses are handled by wives or female family members.

### **Implementation Stages**

The activity stages consist of four main steps, namely identifying partner needs, implementing training, mentoring and implementation, and evaluation and follow-up.

#### **Identifying Partner Needs and Problems**

In the initial phase, field surveys and in-depth interviews were conducted with group leaders and members to determine the current state of financial management. Observations revealed that 85% of members had not recorded their finances at all, while the remainder only recorded major expenses without recording daily income. This situation indicates low financial literacy and a lack of awareness of the importance of financial reporting as a business control tool.

Data collected at this stage includes:

1. Type and volume of fish production each month.
2. Types of operational costs incurred (feed, electricity, water, labor).
3. Sales and cash receipt patterns.

4. The main difficulty in money management.

The identification results form the basis for compiling training materials and determining an approach that is appropriate to the level of understanding of the participants.

#### **Simple Financial Recording Training**

Andragogy (adult education) methods with an emphasis on experiential learning. Each session begins with a light-hearted discussion about real-life problems participants face in managing business finances, followed by theoretical material and hands-on practice.

Training materials include:

1. Basic accounting concepts for small businesses, including the meaning of assets, liabilities, income and expenses.
2. Introduction to financial recording tools such as general cash books, transaction journals, profit and loss reports, and simple balance sheets.
3. Simulation of fishery business transactions, for example purchasing feed, selling fish, and operational costs.
4. Analysis of profit and loss and business efficiency, so that participants understand how financial records can be used to make business decisions.

Each participant received a training module and practical worksheets developed by the service team. The training also included a demonstration of using a Microsoft Excel-based bookkeeping application to illustrate the potential for future financial digitalization.

#### **Mentoring and Implementation**

After the theoretical training, participants were asked to implement the recording system in their daily business activities for four weeks. The community service team made weekly visits to monitor, provide corrections, and help participants adapt the recording format to their respective business needs.

Several participants with better literacy skills were then appointed as "group financial cadres" tasked with assisting other members. This approach follows the *peer mentoring concept* implemented by Napitupulu (2025) in strengthening the financial management of the Taruli Fish Farming MSME. This approach has proven effective in maintaining the sustainability of financial record-keeping practices after the program concludes.

#### **Evaluation and Monitoring of Results**

Evaluation is carried out using two methods, namely formative evaluation and summative evaluation.

1. Formative evaluation is conducted in each training session through questions and answers and observation of participant activities.
2. Summative evaluation is carried out at the end of the activity by comparing the results of *the pre-test* and *post-test* regarding basic understanding of accounting, as well as an assessment of examples of cash books and financial reports prepared by participants.

In addition, qualitative analysis was conducted through interviews to measure changes in participants' behavior and attitudes towards the importance of financial recording.

#### **Data Collection Instruments**

The instruments used in this activity consist of:

1. Pre-test and post-test questionnaires to measure participants' knowledge improvement.
2. Field observation sheet that records the activities, participation, and obstacles faced by participants during the training.
3. Documentation of financial reports (cash book and profit and loss report) as evidence of the implementation of training results.
4. In-depth interviews to obtain participant feedback on the effectiveness of the training method.

#### **Data Analysis Techniques**

Quantitative data from *the pre-test* and *post-test results* were analyzed using a comparative descriptive approach by calculating the percentage increase in average scores. Meanwhile,

qualitative data from interviews and observations were analyzed using thematic analysis , grouping participants' answers based on themes such as understanding, implementation, and obstacles in financial recording.

This analysis is used to assess the extent to which community service activities are able to increase the financial literacy capacity of participants and the effectiveness of the participatory methods applied.

### Program Ethics and Sustainability

All activities were conducted with due regard for research ethics and community empowerment. Each participant was given an explanation of the program's objectives and *informed consent* . To ensure the sustainability of the program, the Rahayu Group's Internal Finance Team was formed . It will continue to record financial records after the training, with regular support from a lecturer.

In addition, the training results and the simple cash book format developed will be replicated for other fisheries groups in the Semarang Regency area through collaboration with the local Fisheries and Maritime Affairs Office.

### Results and Discussion



The training at the Rahayu Fisheries Group was attended by 20 participants consisting of pond owners, field workers, and family members who handle business administration. The results of the pre-test and post-test measurements showed an increase in understanding of basic accounting theory and practical record-keeping skills. The average pre-test score of 38.5% increased to 81.2% in the post-test, indicating a substantial increase in technical knowledge after the training and mentoring intervention. The adoption rate of consistent daily record-keeping practices was recorded at 90% at the end of the two-month mentoring period, with 18 of the 20 participants reporting routinely recording daily transactions. The application of this record-keeping is not only administrative but has begun to become a tool for cost evaluation and operational decisions such as feed purchases and harvest scheduling.

Analysis of daily transaction data collected during the mentoring period revealed a dominant spending pattern for feed, labor, and pond maintenance costs. The average proportion of feed costs to total operational costs was still relatively high at 58% before the training, but after the implementation of feed recording and planning, this is estimated to decrease to 49% in the third month. This decrease is partly due to scheduled feed purchases and negotiations for larger purchases (wholesale purchases) to obtain lower prices. This reduction in feed costs directly contributed to improvements in the group's business margins.

The quantitative summary table shows the changes in key financial indicators between pre- and post-training conditions. This table is compiled from the aggregate of the group's financial records for three months (the month before the intervention, the first month of mentoring, and the third month after implementation).

Indicator/Month	Month-1 (before)	Month+1 (mentoring)	Month + 3 (post)
Average income per member (Rp/month)	2,450,000	2,600,000	2,900,000

<b>Indicator/Month</b>	<b>Month-1 (before)</b>	<b>Month+1 (mentoring)</b>	<b>Month + 3 (post)</b>
Average total membership fee (Rp/month)	2,100,000	2,050,000	1,950,000
Average net margin (Rp/month)	350,000	550,000	950,000
Proportion of feed costs to total costs (%)	58	53	49
Percentage of recorded transactions (%)	20	72	90

Source: Primary data from the Rahayu Fisheries Group (results of group recording during the program)

The table shows a gradual increase in average net margins, indicating that financial records enable businesses to identify cost reductions and better plan sales activities. The increase in average revenue in month +3, in addition to cost efficiencies, was also influenced by simple marketing strategies adopted by some members, such as direct sales to local buyers and pricing based on a new cost-based calculation.

The example of a daily transaction log adopted by the group shows a simple yet functional format: date, transaction type (purchase/sale), number of units, value (Rp), and cash balance. A concrete example of one participant's cash book shows the practice of recording the purchase of 25 kg of feed at a price of Rp 120,000 on a specific date; this record facilitates the verification of feed stock and the calculation of feed costs per kg of fish. With this kind of daily transaction evidence, business owners are able to calculate the cost of goods produced (COGS) per kilogram of fish more accurately, thus setting a more realistic and cost-effective selling price.

Qualitative analysis of in-depth interviews and focus groups yielded several key themes. First, a shift in attitudes toward the importance of record-keeping: participants who previously found record-keeping "complicated" now stated that it helps reduce uncertainty about spending. Second, group capacity was strengthened through the appointment of internal financial cadres: two selected participants served as group ledger managers who assisted other members, resulting in more sustainable record-keeping practices. Third, ongoing obstacles included numeracy challenges among some elderly members and time constraints for members who also held other jobs. To address these barriers, the community service team recommended a more streamlined record-keeping format and gradual follow-up training.

The discussion of the results is linked to previous findings from the literature that served as the basis for the activity. Yusuf (2025) stated that participatory training activities and the use of local materials can reduce production costs and increase business independence. In this context, Yusuf's statement (2025) is relevant to the results in the field: This community service program aims to introduce and socialize appropriate technology for independent fish feed production, which is expected to reduce production costs, increase independence, and maintain business sustainability (Yusuf, 2025). Empirical findings at the Rahayu Fisheries indicate that in addition to recording efforts, a combination of feed purchase planning and group discussions on alternative feed formulations also helped reduce the proportion of feed costs.

Napitupulu et al. (2025) reported that financial record-keeping assistance for fish farming MSMEs resulted in cost efficiency of up to 30–35% and reduced dependence on commercial feed by approximately 40%. This statement aligns with our findings, which showed a decrease in the proportion of feed costs from 58% to 49% in three months; although the percentage reduction differed, the direction of change was the same: a reduction in feed costs after the intervention. Napitupulu et al. (2025) wrote: The results achieved show a significant impact on the production aspect, with a reduction in dependence on commercial feed by approximately 40% and production cost efficiency reaching 30–35% (Napitupulu et al., 2025). The implementation of record-keeping helps groups identify opportunities for feed substitution and more efficient purchasing planning.

Kinasih et al. (2025) emphasized the problematic separation of personal and business finances in fisheries MSMEs, which often causes confusion in assessing business performance. In this study, Kinasih et al.'s (2025) statement proved relevant: many participants initially failed to separate business and personal accounts, resulting in inaccurate profitability evaluations. Kinasih et

al. (2025) stated that some business owners had not yet separated their business and personal finances, making it difficult to track business progress. With our training, the percentage of those practicing separation increased from 10% to 75%, indicating significant progress in basic business governance.

The discussion also covered socio-economic aspects. Financial record-keeping contributed to increased transparency among group members and facilitated collective discussions about investment priorities (e.g., improving pond aeration or purchasing a simple pellet machine). This change strengthened the group's social capital, which, according to the five capitals theory, is a crucial component of business sustainability. Furthermore, accurate transaction documentation opened up opportunities for access to formal micro-capital because financial institutions could assess businesses based on cash flow evidence and profit history, something that was previously difficult. Despite the positive results, there are limitations worth noting. The relatively short monitoring period (three months) means that the long-term impact on income stability and independence cannot yet be fully determined. Some members reported a decline in record-keeping consistency during the busy harvest season, indicating the need to strengthen internal mechanisms to ensure record-keeping becomes a habit. Furthermore, the economic impact analysis did not include significant external variables such as market price fluctuations and weather conditions that affect production; further research with a quasi-experimental design and a longer observation period would strengthen the evidence for the effectiveness of this intervention.

Technical recommendations emerging from these results and discussions include the development of advanced training modules on more detailed cost of goods manufactured calculations, concise numerical training for members with limited arithmetic skills, and a pilot for simple record-keeping digitization using an Excel template or user-friendly mobile app. Institutional recommendations include the establishment of a regular record-keeping schedule tied to monthly group meetings and the role of finance cadres to oversee record-keeping quality.

In summary, the results of the financial recording training at the Rahayu Fisheries indicate that participatory training-based interventions and practical mentoring can improve financial literacy, improve business margins, and strengthen internal group governance. These findings are consistent with empirical evidence in the literature emphasizing the importance of training and mentoring in enhancing the capacity of fisheries MSMEs (Yusuf, 2025; Napitupulu et al., 2025; Kinasih et al., 2025). Continued implementation and long-term evaluation are needed to ensure these behavioral changes become sustainable practices and impact the economic well-being of group members.

## Conclusion

Financial record-keeping training for the Rahayu Fisheries Group in Semarang Regency successfully improved members' ability to manage business finances simply and systematically. Participants learned the basics of recording transactions, preparing profit and loss reports, and separating personal and business finances. The tangible impact of this activity was increased cost efficiency, transparency of financial information, and the group's readiness to develop into a competitive fisheries business.

This activity can serve as a model for financial literacy-based empowerment for fisheries MSMEs in other regions. The next step is recommended to provide advanced training on app-based financial digitalization to help businesses adapt to developments in modern accounting technology.

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