FINANCIAL MANAGEMENT EDUCATION FOR THE STUDENT AGRICULTURAL ACTIVITY UNIT BASED ON ECO-MANAGERIAL FARMING AT AL-HADI ISLAMIC BOARDING SCHOOL

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ABSTRACT

The structural crisis of youth farmer regeneration is a major challenge for Indonesia's agricultural sector; the 2023 Agricultural Census noted that millennial farmers account for only 21.93% of the total national farmers, while the national financial literacy rate has only reached 49.68%. A similar condition is found in Al-Hadi Islamic Boarding School, Serang Regency, which possesses significant land and student (santri) potential yet lacks a structured financial management system for its farming business unit. This community service program aims to establish an Agriculture Student Activity Unit (Unit Kegiatan Santri-UKS) based on eco-managerial principles while strengthening the financial literacy and farm cost analysis capabilities of the santri. Utilizing a Problem-Based Learning approach combined with experiential learning through four stages—diagnosis, intervention, application, and evaluation—the program was implemented through the establishment of the Agriculture UKS on May 18, 2026, and a financial management workshop on May 22, 2026, for 32 santri, covering the separation of personal and business finances, cost classification, daily cash book recording, and production cost estimation. Pre-test and post-test results showed an increase in understanding scores from 37.8% to 79.8% (a gain of 42 percentage points), with the proportion of santri in the high-understanding category increasing to 81.2% and an average participant satisfaction score of 4.45 out of 5. This program has proven effective in building the agribusiness financial literacy of santri and offers a replicable pesantren-based financial education model.

Keywords: *Farm Financial Literacy, Farm Cost Analysis, Student Activity Unit, Eco-Managerial Agriculture, Food Security.*

1. INTRODUCTION

The agricultural sector is one of the main pillars of the Indonesian economy, yet it faces serious regeneration challenges. The 2023 Agricultural Census recorded that millennial farmers aged 19–39 accounted for only 21.93% of the total national farmers, while the proportion of farmers over 55 years old continues to increase (Badan Pusat Statistik, 2023). One factor that worsens this condition is the low financial literacy among farming business actors; the Financial Services Authority (Otoritas Jasa Keuangan, 2023) recorded that the national financial literacy rate had only reached

49.68%, with conditions even lower among rural farmers due to limited access to banking and financial product information (Rahmah & Nurhayati, 2024). Hariyani (2022) added that farmers' financial problems do not stem solely from low income, but from weak financial management and the absence of farm business cost planning

, while Rustan et al. (2023) and Budastra et al. (2022) demonstrated that strengthening financial competence has a significant impact on the efficiency and productivity of farm businesses.

Al-Hadi Islamic Boarding School in Serang Regency represents the general condition faced by many pesantren in Indonesia: possessing significant land and santri resource potential, yet not supported by a structured financial management system. In 2026, eco-managerial farming activities began to be pioneered through the Agriculture Student Activity Unit (UKS) at this pesantren, but the financial management and farm cost analysis components had not been adequately addressed, so the farming activities that had been initiated could not yet be measured for their economic feasibility and sustainability.

Based on this condition, this community service program was designed to establish an eco-managerial-based Agriculture UKS institution while equipping santri with financial literacy and farm cost analysis skills, so that the pesantren's farming business can be managed economically, accountably, and sustainably, and can serve as a replicable pesantren-based agribusiness financial education model for other Islamic educational institutions.

The objectives of this community service program are: (1) to identify the initial level of understanding of Agriculture UKS santri regarding financial management and farm cost analysis; (2) to implement a financial management and farm cost analysis education program integrated with the establishment of an eco-managerial-based Agriculture UKS institution; and (3) to evaluate the program's impact on improving santri understanding and satisfaction, as a basis for developing a replicable pesantren-based agribusiness financial education model.

2. PROBLEM AND RESEARCH QUESTIONS

The main problem faced by the Agriculture UKS of Al-Hadi Islamic Boarding School is the absence of a simple yet systematic financial recording system, the santri's inability to calculate production costs per unit, and the lack of understanding of farm business profitability analysis, in line with the findings of Putri et al. (2021) that many community-based farmer groups have not been able to manage their finances accountably, thereby hindering long-term welfare improvement.

Based on this problem, the community service research questions for this activity are explicitly formulated as follows:

a. What was the initial level of understanding of Agriculture UKS santri regarding financial management and farm cost analysis before the program was implemented?
b. How was the financial management and farm cost analysis education program implemented in the eco-managerial-based Agriculture UKS at Al-Hadi Islamic Boarding School?
c. What was the program's impact on improving santri understanding and satisfaction?

This community service activity was carried out at the Communal Garden and Hall of Al-Hadi Islamic Boarding School, Penggalang Village, Ciruas Sub-district, Serang Regency, Banten Province, as shown in Figure 1.

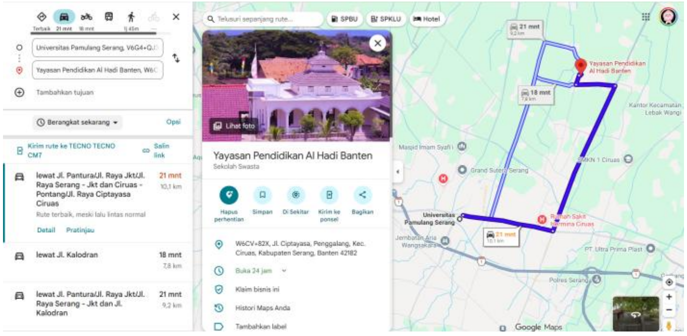

Figure 1. Activity Location Map

3. LITERATURE REVIEW

Financial literacy is defined as an individual's ability to understand and apply basic financial concepts for sound decision-making, which has been shown to contribute to the economic welfare of households as well as small business actors (Yushita, 2017). In the context of farm businesses, cost analysis becomes an important instrument for assessing business feasibility, including the identification of fixed and variable costs, the calculation of the Cost of Goods Manufactured (HPP), and the estimation of the Break Even Point (BEP) as a basis for production decisions (Soekartawi, 2016; Ibrahim, 2020; Andarwati, 2026).

The eco-managerial principle in agriculture refers to the management of farm businesses that combine economic efficiency with sustainable agroecological practices, such as organic waste management and natural pest control (Fitria et al., 2024). The community empowerment framework used emphasizes strengthening the community's internal capacity by utilizing existing assets—in this case, the santri, the land, and the Agriculture UKS institution that had already been pioneered—consistent with community- and local-institution-based empowerment models that have proven effective in similar pesantren-based programs (Angelita et al., 2025).

Prior empirical studies reinforce the urgency of this program. Andarwati (2026) showed that direct training and mentoring in farm business production cost calculation improves farm business actors' ability to set profitable selling prices. Angelita et al. (2025) demonstrated that strengthening financial literacy based on exemplary values within a pesantren environment is effective in improving santriwati's understanding of financial risk management, while Ibrahim et al. (2025) found that financial literacy, lifestyle, and parental income also influence the financial behavior of santri in pesantren. In terms of learning methods, Azrina et al. (2024) demonstrated that integrating Problem-Based Learning with an experiential learning approach significantly improves students' cognitive learning outcomes compared to conventional methods, which underlies the choice of a similar approach in this program. These studies confirm that pesantren-based financial education using participatory, practice-based methods consistently produces better improvements in financial understanding and behavior compared to conventional lecture-based approaches alone.

This program provides a practical contribution in the form of an agribusiness financial literacy education model integrated with an intra-pesantren institution (UKS), while also enriching the still-limited body of pesantren-based community service literature that specifically addresses farm business financial management. This approach, which combines financial literacy, farm business cost analysis, and asset-based empowerment, has the potential to be replicated in other pesantren with similar agricultural business units.

4. METHOD

a. The activity combined interactive lectures to convey concepts, case studies using real commodities from the UKS garden, simulations and hands-on practice in cash book entry and cost estimation, pre-test and post-test measurements to quantitatively assess program effectiveness, and further mentoring by accompanying students, both in person and through a WhatsApp group.
b. The participants numbered 32 senior-high/madrasah aliyah-level santri who served as administrators and active members of the Agriculture UKS, out of a total of approximately 100 santri at Al-Hadi Islamic Boarding School.
c. The problem-solving framework was built using a Problem-Based Learning approach combined with experiential learning, given that the integration of the two approaches has been empirically shown to be more effective in improving learning outcomes than conventional methods (Azrina et al., 2024), consisting of four stages: diagnosis (pre-test and needs analysis), educational intervention (workshop and training), application (simulation of recording and calculation using real garden data), and evaluation (post-test and reflection). Chronologically, initial coordination and preparation were carried out during the April–May 2026 period; the activity began with the establishment of the Agriculture UKS on May 18, 2026, followed by the financial management and farm cost analysis workshop on May 22, 2026, and concluded with a post-workshop mentoring phase throughout June 2026.

5. RESULTS AND DISCUSSION

a. Result

Before the program was implemented, the pre-test results for 32 santri showed an average understanding score of only 37.8%, with 65.6% of santri (21 people) in the low-understanding category and only 6.3% (2 people) in the high category. This condition confirmed the previously identified problem, namely the santri's low understanding of the basic concepts of financial management and agricultural production cost analysis.

The implementation of the program consisted of two interconnected core activities. The activity began with the establishment of the Agriculture Student Activity Unit (UKS) on May 18, 2026, at the Communal Garden of Al-Hadi Islamic Boarding School, involving the lecturer team, accompanying students, ustadz, and santri in a participatory manner. The results achieved were the formation of the core Agriculture UKS management team (chairperson, secretary, treasurer, and technical coordinator), site observation, land preparation and clearing, and the planting of flagship commodities that served as the case study object in the subsequent financial education session, as shown in Figure 2.

Figure 2. Documentation of the Establishment of the Agriculture UKS, May 18, 2026

The second core activity was the financial management and farm cost analysis workshop held on May 22, 2026, attended by 32 santri who served as administrators and active members of the Agriculture UKS. The workshop consisted of filling out the pre-test questionnaire, presenting material on separating personal and farm business finances, training in identifying and classifying fixed and variable costs, hands-on practice in daily cash book entry using real garden data, group preparation of production cost estimates, and filling out the post-test questionnaire, as shown in Figure 3.

Figure 3. Documentation of the Financial Management Workshop, May 22, 2026

Following these two core activities, the community service team carried out routine mentoring in the form of technical cultivation guidance in the garden and monitoring of the consistency of financial transaction recording by the UKS administrators. As of the writing of this article, mentoring is still actively ongoing, with plans for actual cost analysis using real harvest data, as shown in Figure 4.

Figure 4. Documentation of Mentoring During the First Harvest Season

The program's impact on improving santri understanding was measured using a pre-test and post-test questionnaire across five indicators, as presented in Table 1.

Table 1. Comparison of Average Pre-Test and Post-Test Scores per Indicator

Understanding Indicator	Pre-Test (%)	Post-Test (%)
Separation of personal and farm business finances	46	85
Identification of fixed and variable costs	38	80
Recording of transactions in the daily cash book	41	88
Preparation of production cost estimates	35	76
Basic understanding of Cost of Goods Manufactured (HPP)	29	70
Overall Average	**37.8**	**79.8**

The distribution of santri understanding categories before and after the workshop is presented in Table 2.

Table 2. Distribution of Santri Understanding Categories Before and After the Workshop

Category	Score Range	Pre-Test	Post-Test

Low	0–40	21 (65.6%)	0 (0%)
Medium	41–70	9 (28.1%)	6 (18.8%)
High	71–100	2 (6.3%)	26 (81.2%)
Total	**-**	**32 (100%)**	**32 (100%)**

Participant satisfaction with the workshop implementation was also measured using a 1–5 Likert scale, as presented in Table 3.

Table 3. Results of the Participant Satisfaction Evaluation of the Workshop

Aspect Assessed	Score (1-5)	Category
Clarity of the material presented	4.4	Very Good
Usefulness of the material for UKS management	4.6	Very Good
Suitability of the practice/simulation method	4.3	Very Good
Interaction and responsiveness of the presenter	4.5	Very Good
Overall Average	**4.45**	**Very Good**

b. Discussion

The pre-test and post-test results showed an increase in the average understanding score from 37.8% to 79.8%, or a gain score of 42 percentage points, which answers the research question regarding the program's impact on santri capability. Compared to the initial condition dominated by the low-understanding category (65.6%), the implementation of the program through the establishment of the Agriculture UKS and the financial management workshop successfully shifted the distribution to be dominated by the high category (81.2%). The largest increase occurred in the daily cash book transaction recording indicator (from 41% to 88%), presumably because the hands-on practice sessions gave santri concrete experience compared to lectures alone. Conversely, the basic understanding of Cost of Goods Manufactured (HPP) indicator showed a relatively lower increase (from 29% to 70%) compared to the other indicators, indicating that this concept requires further mentoring before santri can independently perform break-even point (BEP) analysis. This finding is consistent with the results of Budastra et al. (2022) on dryland farmers in West Lombok, which demonstrated that hands-on practice-based financial literacy training is more effective than conventional lecture methods in improving understanding of farm business financial management. The very good participant satisfaction score (4.45 out of 5), particularly on the aspect of the material's usefulness for UKS management (4.6), further confirms the direct relevance between the material taught and the practical needs of managing the newly established Agriculture UKS.

6. CONCLUSION

Based on the community service research questions, it can be concluded that: (1) before the program was implemented, the understanding of Agriculture UKS santri regarding financial management and farm cost analysis was low, with an average pre-test score of 37.8% and 65.6% of santri in the low-understanding category; (2) the education program was implemented through two interconnected core activities, namely the establishment of the Agriculture UKS on May 18, 2026, and the financial management and farm cost analysis workshop on May 22, 2026, for 32 santri, covering the separation of personal and business finances, cost classification, daily cash book recording, and production cost estimation, followed by an ongoing mentoring phase; and (3) the program was proven to have a significant impact on improving santri understanding, shown by the increase in understanding scores from 37.8% to 79.8% (a gain of 42 percentage points) and a shift in the distribution of understanding categories from predominantly low to predominantly high (81.2%), with a very good level of participant satisfaction (4.45 out of 5). This program has the potential to become a replicable pesantren-based financial education model, with the caveat that further reinforcement is needed on the Cost of Goods Manufactured material, as well as a medium-term evaluation using actual cost and income data from harvest results.

For future research and community service, it is recommended to: (1) conduct a medium-term evaluation (3–6 months post-activity) to measure the retention of understanding and the consistency of financial recording practices among santri after mentoring ends; (2) complete the analysis with actual cost and income data from harvest results so that HPP calculation and break-even point (BEP) analysis can be carried out in full; (3) provide additional reinforcement sessions specifically on HPP and BEP material, given that the level of understanding on these indicators remains relatively low compared to other indicators; and (4) test the replication of this education model in other pesantren with different agricultural business unit characteristics to assess the generalizability of the findings.

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