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Implementation of Julo-Julo Sawah as a Production Cost Control Strategy

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Abstract

Purpose: This study aims to (1) describe the implementation of the julo-julo sawah work system in farming activities in Nagari Katapiang, Batang Anai District, Padang Pariaman Regency; (2) analyze the impact of julo-julo sawah on the control of agricultural production costs; and (3) examine farmers' perceptions of julo-julo sawah as an alternative cost-saving mechanism.

Design/methodology/approach: This study employs a descriptive qualitative approach with a case study design conducted in Korong Tabek, Nagari Katapiang. Primary data were obtained through direct observation and semi-structured interviews with the head of the julo-julo group, group members, and community leaders, supplemented by secondary data from documentation. Data were analyzed through data reduction, data display, and conclusion drawing/verification.

Findings: Julo-julo sawah continues to be practiced as an intergenerational form of reciprocal mutual-help labor without cash wages, conducted approximately once every four months following the planting-harvesting cycle, and managed through a simple organizational structure (chairperson, secretary, members) without formal financial record-keeping. The system is shown to reduce labor costs—the largest component of production costs—accelerate the completion of farm work, and is perceived positively by all informants as it saves costs while strengthening social solidarity, although participation has begun to decline due to modernization and a shift toward individualistic values.

Practical implications: The findings can serve as a reference for farmer groups and village (nagari) governments in designing empowerment programs based on local wisdom, including the importance of simple record-keeping for mutual-help activities to ensure accountability, and encouraging the regeneration of youth participation in traditional cooperative work systems proven to reduce farming costs.

Originality/value: This study contributes a novel perspective by explicitly linking the local wisdom practice of julo-julo sawah with the concepts of cost accounting and production cost control, an angle that has been largely overlooked in prior julo-julo studies, which have generally focused on sociological or general economic aspects.

Paper type: Empirical.

Keywords: julo-julo sawah, production cost, cost control, mutual cooperation, local wisdom.

1. Introduction

Agriculture is one of the fundamental sectors in a nation's economic development and food security. As the main source of food supply, industrial raw materials, and employment for the majority of rural populations, agriculture plays a strategic role in sustaining the social and economic life of society, particularly in Indonesia, where farming has become part of a culture passed down across generations. Nevertheless, the agricultural sector faces various challenges, ranging from productivity constraints and climate change to land-use conversion and limited access to technology and capital.

Production cost is the entire economic sacrifice incurred by farmers in the farming process to obtain output, covering the use of land, labor, capital, and production inputs. Krisnawati et al. (2018)

argue that an increase in rice production should be accompanied by a reduction in production costs to improve farmers' welfare, since lower production costs increase farmers' income, ceteris paribus. One of the main constraints faced by farmers under traditional farming systems in Indonesia is the high cost of production, particularly the labor or wage component, a problem compounded by limited capital and restricted access to modern technology.

One long-standing local solution applied in various regions of West Sumatra to address this problem is a mutual cooperative labor-sharing system locally known as "julo-julo." Julo-julo is a traditional form of farming cooperation in which a group of farmers take turns helping each other work their respective plots of land without formal cash wages (Ramadani, 2022). The system is grounded in the principles of mutual cooperation (gotong royong) and social solidarity, which not only reduce the need for paid labor but also strengthen social bonds among farmers. Roba et al. (2024) contend that the values of mutual cooperation in Indonesian society reflect a cultural strength capable of enhancing economic efficiency while simultaneously reinforcing social cohesion. From the perspective of economic anthropology, julo-julo is understood as a form of social exchange that generates reciprocal obligations to give, receive, and return assistance in an equivalent form (Intan, 2018).

However, amid rapid modernization and social change, the practice of julo-julo has begun to decline as communal values shift toward more individualistic orientations. This condition underscores the importance of re-examining and adaptively reimplementing this practice so that it remains relevant in improving farmers' cost efficiency while preserving local cultural values. Based on the foregoing, this study addresses three research questions: (1) how is the julo-julo work system implemented in farming activities in Nagari Katapiang, Padang Pariaman; (2) what impact does julo-julo have on production costs; and (3) how do farmers perceive the julo-julo sawah system as an alternative cost-saving mechanism.

This study aims to answer the three research questions above. Theoretically, it is expected to contribute to the development of knowledge in rural social and agricultural economics, while practically, it is expected to provide an understanding of alternative approaches to reducing labor costs through community-based participation and the effectiveness of local wisdom in managing human resources in the agricultural sector.

2. Literature Review and Hypotheses Development

Mulyadi (2010) defines cost as an economic sacrifice measured in monetary units to achieve a specific objective, while production cost refers specifically to the cost incurred to process raw materials into finished, sellable products. Slamet and Sumarli (2002) classify production costs into direct material costs, direct labor costs, and factory overhead costs. In the context of farming, Achmad (2010) distinguishes between fixed costs (e.g., land rent) and variable costs (e.g., seeds, fertilizer, and direct labor wages), noting that labor cost constitutes the largest variable component determining the efficiency and profitability of farmers.

Cost control, according to Mulyadi (2007), is an effort to achieve a specific objective through expected behavior, ensuring that production activities proceed according to plan. Sukirno (2013) asserts that effective production cost control prevents business failure and losses arising from cost overruns, while Stephanie (2013) notes that firms or groups capable of controlling costs efficiently can be considered operationally efficient.

Julo-julo represents a relatively creative community-based solution, particularly among lower-middle-class groups, for meeting their economic needs (Ramadani, 2022). In the Minangkabau cultural context, julo-julo is practiced not only in monetary savings groups but also in farming activities, as reflected in the local expression "bajulo-julo batanam padi" (collective rice planting). Thobias et al. (2013) define social capital as a community's capacity to build relationships and cooperative networks in order to achieve shared goals, grounded in trust and social norms. Sawitri and Soepriadi (2014) further argue that social capital is essential not only in general community life but also in farming activities, as pre-production, production, and post-harvest processes require close cooperation among

farming actors. Consistent with this, Ernanda et al. (2020) empirically demonstrated that the social norm of julo-julo has a positive and significant effect on chili farming performance in Payakumbuh City, with willingness to help one another being the most dominant indicator.

Several prior studies reinforce the relevance of julo-julo research within the broader economic context of communities. Rohani et al. (2021) found that staple-goods julo-julo in Central Aceh Regency functions as a form of social exchange for weddings and communal celebrations. Replita et al. (2025) showed that the development of julo-julo increased traders' income by 83.33% in a traditional market in Padangsidimpuan. Wahyuni et al. (2013) revealed that agricultural julo-julo serves as an economic strategy for female farm laborers in West Pasaman to meet daily needs amid economic constraints. These studies consistently indicate that julo-julo plays a dual role, functioning both as a mechanism of social exchange and as a household economic strategy; however, studies explicitly connecting it to cost accounting and production cost control remain scarce, representing the research gap addressed by the present study.

The main problem faced by rice farmers in Nagari Katapiang is the high cost of production, particularly labor cost, which adversely affects farmers' income and welfare (Zaini et al., 2019). As an alternative cost-control mechanism, the community implements julo-julo sawah as a mutual-help work system that reduces transaction and production costs through the utilization of social capital (Thobias et al., 2013). Julo-julo is understood as a form of social exchange grounded in reciprocal obligations to give and receive (Intan, 2018), enabling farmers to obtain labor without incurring cash wages. The implementation of julo-julo sawah ultimately functions as a labor-cost control strategy that reduces total production costs and increases farmers' income (Krisnawati et al., 2018). As this study is exploratory and qualitative in nature, the conceptual framework above serves as a guide for observation and interview data collection rather than as a hypothesis to be statistically tested; accordingly, no formal hypothesis is proposed.

3. Research Method

This study employs a descriptive qualitative approach using a case study design. The research was conducted in Korong Tabek, Nagari Katapiang, Batang Anai District, Padang Pariaman Regency, West Sumatra Province, a location selected because the majority of the community works as rice farmers and continues to maintain the julo-julo sawah system in their farming activities. Data collection took place over approximately three months.

Data consist of primary and secondary sources (Sugiyono, 2018). Primary data were obtained directly through interviews with the community and farmers in Nagari Katapiang, while secondary data comprise related documents, such as literature, journal articles, and activity documentation.

Data collection employed three techniques. First, direct field observation was conducted to examine the actual implementation of julo-julo sawah (Sugiyono, 2018). Second, semi-structured (in-depth) interviews were conducted with key informants—the head of the julo-julo group, group members, and community/customary leaders (ninik mamak)—assisted by a voice recorder, field notes, and camera for cross-checking and to enhance data validity (Prastowo, 2012). Third, documentation in the form of books, archival records, and photographs served to complement the observation and interview data (Sugiyono, 2018).

Data analysis followed the qualitative stages proposed by Sugiyono (2020): (1) data reduction, involving summarizing, selecting key points, and focusing on relevant themes and patterns; (2) data display, presenting information narratively supported by tables and figures; and (3) conclusion drawing/verification, which is provisional at the initial stage and becomes credible once supported by consistent evidence from subsequent data collection.

4. Result and Discussion

Table 1 summarizes the key characteristics of the julo-julo sawah system as practiced in Korong Tabek, based on the results of observation and interviews with informants.

Table 1. Characteristics of the Julo-Julo Sawah System in Korong Tabek

Characteristic	Description
Wage system	No cash wages; based on a reciprocal (turn-taking) labor exchange
Frequency	Approximately once every four months, following the planting-harvesting cycle
Organizational structure	Chairperson, secretary, and members; no formal financial administration
Activities covered	Land preparation, planting, weeding/maintenance, and harvesting
Cost recording	Limited to member lists and turn schedules; no formal bookkeeping
Main basis of sustainability	Social capital: trust, solidarity, and mutual accountability

Source(s): Authors' own creation, based on field interviews (2026)

4.1 Implementation of the Julo-Julo Sawah System in Farming Activities

Julo-julo sawah in Korong Tabek, Nagari Katapiang, is a mutual-help system among farmers carried out on a rotating basis without monetary wages, operating instead on the principle of reciprocity. Its implementation comprises ten stages, beginning with group formation based on residential proximity and trust, followed by group deliberation to determine schedules, the assignment of turns among members, land preparation, planting, plant maintenance, harvesting, and, finally, joint evaluation. The system is generally conducted once every four months, following the local rice planting-harvesting cycle, with the schedule determined collectively through group deliberation (musyawarah).

From an accounting perspective, the findings indicate that julo-julo sawah is not accompanied by formal financial management as found in modern farmer organizations. The group possesses no group treasury, fixed dues, or structurally managed funding sources. Costs that do arise typically originate from the landowner receiving assistance during their turn, generally in the form of simple refreshments for working members, with amounts left unspecified. The group's organizational structure is simple, consisting of a chairperson, secretary, and members, with record-keeping limited to member lists and turn schedules to preserve fairness among participants. Accountability for group activities is achieved directly through collective participation rather than formal written reporting, and the sustained success of the group's management relies more on social capital—trust and solidarity—than on complex administrative systems.

4.2 Impact of Julo-Julo Sawah on Production Cost Control

Julo-julo sawah is shown to have a positive impact on production cost control, primarily through the efficient use of labor, which constitutes the largest component of production cost in rice farming. By assisting one another without cash wages, farmers are able to reduce operational costs while accelerating the completion of farm work compared to working individually or hiring wage labor. This acceleration also mitigates the risk of delays in planting and harvesting that could otherwise reduce yield.

From a cost-control perspective, the reduction in direct labor cost contributes to a decrease in total production cost, thereby increasing farmers' potential profit. Simple record-keeping of turns and group activities allows members to compare production cost efficiency before and after the adoption of julo-julo, although such records are not yet maintained systematically. This finding reinforces Krisnawati et al. (2018), who report that reduced production costs lead to increased farmer income, and aligns with Mulyadi's (2015) cost-control framework, which emphasizes minimizing cost without sacrificing output.

4.3 Farmers' Perceptions of Julo-Julo Sawah as a Cost-Saving Alternative

Interviews with key informants reveal a consistent perception that julo-julo sawah is not merely an inherited habit, but a social mechanism that helps farmers meet their labor needs without incurring substantial costs. Farmers do not view the labor assistance exchanged through julo-julo as a profit-

oriented economic transaction, but rather as a social obligation arising from communal relationships and mutual trust among group members.

Beyond its economic benefits—cost savings and faster completion of work—julo-julo sawah is also perceived as a means of social interaction that strengthens familial bonds and facilitates the exchange of agricultural knowledge among farmers. The value of mutual cooperation, passed down across generations, remains the primary motivation for participation, even as agricultural technology, easier access to wage labor, and declining youth interest in farming gradually erode the frequency and intensity of the practice. Nevertheless, the majority of informants continue to view julo-julo sawah as relevant and worth preserving, given its dual benefits for both production cost control and the maintenance of social solidarity within the Nagari Katapiang community.

5. Conclusion

Based on the findings regarding the implementation of julo-julo sawah as a production cost control strategy in Nagari Katapiang, three conclusions can be drawn.

1. The implementation of the julo-julo sawah system continues to be practiced by farmers as a form of mutual cooperative labor, conducted on a rotating basis according to group agreement, covering the stages of land preparation, planting, maintenance, and harvesting, and grounded in the values of togetherness and mutual responsibility among members.

2. The impact of julo-julo sawah on production cost is positive, particularly in reducing wage-labor costs, thereby enabling more effective cost control while allowing farm work to be completed more quickly and efficiently.

3. Farmers' perceptions of the julo-julo sawah system are generally positive; farmers regard the system as not only reducing production costs but also strengthening social relationships, fostering solidarity, and preserving the culture of mutual cooperation.

Overall, julo-julo sawah is shown to be an effective strategy in helping farmers control production costs while simultaneously reinforcing social and cultural values, confirming that local wisdom continues to play an important role in supporting the sustainability of agriculture in Nagari Katapiang. This study is limited to a single-site qualitative case study and does not quantitatively measure the magnitude of cost savings; future research is therefore recommended to explore the feasibility of simple financial record-keeping for julo-julo groups and strategies to regenerate youth participation, so that this tradition remains sustainable amid ongoing social change.

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