

Narratives of Independent Oil Palm Smallholders on Production Costs, Selling Prices, and Family Economic Dynamics

Eva Jannuriati¹, Ni Made Suwitri Parwati², Andi Ainil Mufidah Tanra³

^{1,2,3} Faculty of Economics and Business, Universitas Tadulako, Indonesia

Correspondence: evajannuriat@gmail.com,

Received: 23 Juni 2026 | Revised: 25 Juni 2026 | Accepted: 15 Agustus 2026

Keywords:

Independent oil palm farmers; production costs; selling prices; family economic dynamics; management accounting

Abstract

This study examines how independent oil palm farmers narrate production costs, the selling price of fresh fruit bunches (FFB), and family economic dynamics in Bambalamotu Village, Pasangkayu Regency. A qualitative narrative design with a phenomenological orientation was used to capture farmers' lived experiences rather than to measure economic variables statistically. Data were collected through in-depth interviews, observation, and documentation involving two independent oil palm farmers and two family members who participate in household economic decision-making. The data were analyzed through reduction, thematic categorization, and meaning interpretation. The findings show that rising production costs are experienced not only as operational expenses but also as pressures that reshape household priorities. FFB prices function as the main reference for planning family expenditures, yet price fluctuations create uncertainty because farmers must pay for fertilizer, labor, maintenance, and transport before income is secured. Farmers respond by postponing non-urgent spending, using family labor, organizing collective harvesting arrangements, and diversifying income through other agricultural activities. The novelty of this study lies in showing that independent farmers use cost and price information as informal management accounting knowledge, even without formal records. These findings extend smallholder livelihood and management accounting literature by positioning farmers as active interpreters of economic information and household survival strategies.

Kata Kunci:

Petani sawit mandiri; biaya produksi, harga jual; dinamika ekonomi keluarga; akuntansi manajemen

Abstract

Penelitian ini mengeksplorasi bagaimana petani sawit mandiri menarasikan biaya produksi, harga jual tandan buah segar (TBS), serta dinamika ekonomi keluarga di Desa Bambalamotu, Kabupaten Pasangkayu. Penelitian ini menggunakan desain kualitatif naratif dengan orientasi fenomenologis untuk menangkap pengalaman hidup petani, bukan sekadar mengukur variabel ekonomi secara statistik. Data dikumpulkan melalui wawancara mendalam, observasi, dan dokumentasi yang melibatkan dua petani sawit mandiri dan dua anggota keluarga yang terlibat dalam pengambilan keputusan ekonomi rumah tangga. Data dianalisis melalui reduksi data, kategorisasi tematik, dan interpretasi makna. Hasil penelitian menunjukkan bahwa kenaikan biaya produksi tidak hanya dipahami sebagai pengeluaran operasional, tetapi juga sebagai tekanan yang mengubah prioritas kebutuhan keluarga. Harga TBS menjadi acuan utama dalam perencanaan pengeluaran rumah tangga, namun fluktuasi harga menimbulkan ketidakpastian karena petani harus membayar pupuk, tenaga kerja, perawatan, dan transportasi sebelum pendapatan diperoleh. Strategi adaptasi dilakukan melalui penundaan pengeluaran non-prioritas, pemanfaatan tenaga keluarga, kerja panen bergiliran, dan diversifikasi pendapatan. Kebaruan penelitian ini terletak pada temuan bahwa petani menggunakan informasi biaya dan harga sebagai pengetahuan akuntansi manajemen informal meskipun tanpa pencatatan formal.

INTRODUCTION

Oil palm remains one of the most important rural commodities in Indonesia because it connects household livelihoods, village employment, regional revenue, and global vegetable oil markets. For many rural households, however, the economic promise of oil palm is accompanied by everyday vulnerability: farmers must finance production inputs before harvest income is received, while the price of fresh fruit bunches (FFB) is largely determined outside the household. Recent oil palm scholarship has therefore moved beyond a simple “profitability” narrative and has emphasized the need to read smallholder welfare together with market uncertainty, environmental pressure, and institutional inequality (Gaveau et al., 2022; Li, 2024).

Indonesia is home to one of the world's largest oil palm smallholder sectors. National statistics indicate that independent smallholders cultivate a substantial share of Indonesia's oil palm area, with millions of farming households relying directly on palm oil as their primary source of livelihood. In West Sulawesi, oil palm has become one of the dominant plantation commodities, and Pasangkayu Regency contributes a considerable proportion of the province's plantation production. The increasing number of independent smallholders in this region implies that fluctuations in production costs and fresh fruit bunch (FFB) prices affect not only farm profitability but also the economic resilience of rural households. These structural conditions make understanding farmers' economic decision-making increasingly important.

Independent smallholders are particularly exposed to this uncertainty. Unlike scheme smallholders or farmers integrated into company arrangements, independent farmers usually make their own decisions about input use, harvesting, transport, and marketing channels. This autonomy provides flexibility, but it also means that they bear production risks, price risks, and information asymmetry with less institutional support. Previous studies have shown that independent smallholders in Indonesia often face heterogeneous land conditions, limited access to certification, weak bargaining positions, and uneven inclusion in sustainable supply chains (de Vos et al., 2023; Eggen et al., 2024)

The urgency of the present study emerges from the situation observed in Bambalamotu Village, Pasangkayu Regency, where independent oil palm farmers reported a widening gap between production costs and the income received from FFB sales. Farmers described fertilizers, herbicides, labor wages, transport, and maintenance as costs that continue to rise, while FFB selling prices move unpredictably. This is consistent with wider evidence that fertilizer management and nutrient supply remain major constraints in Indonesian smallholder oil palm systems, while price shocks and market structures can transmit vulnerability directly to farmers' welfare (Lim et al., 2023; Reich et al., 2025).

Existing studies have contributed important quantitative evidence on how oil palm farming affects income, expenditure, productivity, and household welfare. For example, RAMADHANA et al. (2021) showed that oil palm farming contributes substantially to household income and expenditure patterns in West Sulawesi. Other studies have highlighted replanting challenges, certification incentives, and livelihood typologies among smallholders (Anas et al., 2025; Petri et al., 2024; Pramudya et al., 2022). Nevertheless, much of this literature still treats production costs, selling prices, and household economy as variables to be measured, while the meaning-making process through which farmers interpret these economic pressures remains less visible.

Conceptually, this study assumes that production costs and FFB selling prices constitute the primary economic information received by independent oil palm farmers. Farmers continuously interpret this information through practical experience, which subsequently shapes household financial decisions, including expenditure prioritization, input purchasing, labor allocation, savings, and income diversification. Household economic dynamics are therefore understood as the outcome of farmers' continuous interpretation of changing production costs and market prices under conditions of uncertainty. This conceptual perspective guided data collection and thematic analysis in the present study.

This study addresses that gap by focusing on farmers' narratives. The research gap lies in the limited qualitative understanding of how independent oil palm farmers translate production cost information and FFB price information into household economic decisions. In farm management research, accounting information is not always restricted to formal reports; it can also appear as practical, remembered, and experience-based knowledge that guides everyday decisions. Studies on farm financial management and agricultural accounting have emphasized that farmers often combine formal and informal information when making decisions under uncertainty (Hayden et al., 2022; Tingey-Holyoak et al., 2023).

The novelty of this study is therefore twofold. First, it positions production costs and FFB selling prices as lived economic experiences that influence family decisions, rather than merely as numerical components of farm income. Second, it extends management accounting discussion into the world of independent smallholder farming by showing how farmers use cost and price information informally to plan, control, and negotiate household survival. Based on this background, the study aims to explore how independent oil palm farmers in Bambalamotu Village narrate production costs, FFB selling prices, household economic dynamics, and adaptation strategies in response to economic uncertainty.

METHOD

This study used a qualitative approach with a narrative inquiry design strengthened by a phenomenological orientation. The design was selected because the study sought to understand how farmers tell, organize, and interpret their experiences of production costs, FFB selling prices, and household economic life. Rather than testing causal relationships, the study focused on the meanings that farmers attach to economic events and the practical decisions that follow from those meanings.

The research was conducted in Bambalamotu Village, Pasangkayu Regency, West Sulawesi Province. The village was selected because many households depend on independent oil palm farming as their main source of livelihood. In this context, independent farmers manage their own plantations, finance production inputs independently, and sell FFB through local marketing channels such as collectors or mills.

Informants were selected using purposive sampling based on predetermined inclusion criteria to ensure that participants possessed sufficient experience to narrate household economic decision-making. The inclusion criteria for the primary informants were: (1) independent oil palm farmers who owned or managed their own plantations without formal company partnership; (2) had been engaged in oil palm farming for at least five years; (3) relied on oil palm as the primary source of household income; (4) had experienced fluctuations in FFB selling prices and production costs during the previous three years; and (5) were willing to participate voluntarily and share their experiences.

Supporting informants were adult household members, preferably spouses, who were directly involved in managing household finances and were familiar with expenditure allocation, education costs, food consumption, savings, and other household economic decisions. The final informants consisted of two independent oil palm farmers and two household members. Although the number of informants was small, the data were treated as a focused narrative case intended to reveal depth, context, and meaning rather than statistical representation.

Data were collected through three techniques: in-depth interviews, non-participant observation, and documentation. Interviews were conducted using a semi-structured guide that covered plantation management, production cost experiences, price fluctuation experiences, household expenditure, adaptation strategies, and expectations for the future of oil palm farming. Observations were used to understand plantation conditions, harvesting activities, transport access, and the everyday economic context of farming households. Documentation included field notes, photographs, and simple transaction information related to FFB sales and farm expenses. Each in-depth interview lasted approximately 60–90 minutes and was conducted at locations chosen by the participants, primarily at their homes or plantations. With participants' informed consent, all interviews were audio-recorded using a digital recorder to ensure data completeness. During each interview, the researcher also prepared field notes documenting non-verbal expressions, environmental conditions, and contextual observations. Audio recordings were transcribed verbatim immediately after data collection to preserve the accuracy of participants' narratives before analysis.

Data were analyzed using thematic analysis following a systematic coding procedure. First, all interview recordings were transcribed verbatim and repeatedly read to achieve familiarity with the data. During the open coding stage, meaningful words, phrases, and sentences related to production costs, FFB selling prices, household expenditure, and adaptation strategies were identified and assigned initial codes. In the axial coding stage, conceptually related codes were grouped into broader categories by examining relationships among production costs, price fluctuations, household financial decisions, and coping strategies. Finally, selective coding was conducted to integrate these categories into overarching themes that explained how farmers interpreted economic information and translated it into household decision-making. The final themes included increasing production costs, uncertain FFB selling prices, household expenditure adjustments, use of family labor, income diversification, and informal cost-price calculation. These themes were subsequently interpreted through the perspectives of household economy, sustainable livelihood, and management accounting. Trustworthiness was strengthened through source triangulation, method triangulation, and member checking with informants to confirm that the interpretations reflected their intended meanings.

RESULTS AND DISCUSSION

Research Setting and Informant Profile

Bambalamotu Village represents a rural oil palm setting in which households depend strongly on plantation income. The farmers in this study manage relatively small plots and must independently cover production inputs, labor, transport, and land-related expenses. Field observation showed that farm access roads were not always adequate, so transport costs were not incidental expenses but part of the everyday structure of production. This condition is important because poor access can reduce the net income received by farmers even when FFB prices appear favorable.

The study involved two independent oil palm farmers and two family members. The profile of the informants is presented in Table 1. The table also shows that the household economy is not managed only by the farmer as the land manager; family members also participate in interpreting income, arranging expenditure, and adjusting household priorities.

Table 1.
Informant profile

Informant	Age	Household/Farming Exposure	Land Area	Description
N1	55 years	30 years	± 3 ha	Independent oil palm farmer
N2	39 years	12 years	± 1 ha	Independent oil palm farmer
N3	46 years	18 years	± 1.5 ha	Wife of an oil palm farmer
N4	28 years	25 years	± 2 ha	Child of an oil palm farmer

Source: Field data processed, 2026.

Production Costs as a Household Economic Pressure

Farmers narrated production costs as a burden that arrives before income is certain. The most frequently mentioned cost components were fertilizers, pesticides, herbicides, harvest labor, transport, plantation maintenance, and annual tax obligations. Fertilizer was applied approximately every six months, and farmers described non-subsidized fertilizer prices as increasingly difficult to afford. One informant stated, “Fertilizer prices are very expensive now. Sometimes we know the plantation needs fertilizer, but we do not have enough money. So, we are forced to reduce the dosage or postpone the application.” This narrative shows that cost pressure directly affects agronomic decisions.

The cost information narrated by farmers was specific and practical. Fertilizer needs were estimated at around 2.5 kg per tree, while pesticide and herbicide purchases were calculated according to land area and field condition. Labor was commonly paid based on harvest output, and transport costs were calculated from fuel use and vehicle rental per kilogram of FFB. These details show that farmers may not prepare formal accounting statements, but they possess a clear working memory of costs that matter for decision-making.

The economic meaning of production costs becomes clearer when linked to household needs. A family member explained, “When the fertilization period comes, the household budget usually decreases. Sometimes other needs have to be postponed because the plantation must be prioritized.” Another informant added that education costs, electricity bills, and daily consumption all depend on oil palm income. These statements indicate that production costs are not separated from the household budget. Farm expenses and family expenses compete within the same cash flow.

This finding confirms and extends prior research. Lim et al. (2023) emphasized that nutrient supply in smallholder oil palm fields is often too low and imbalanced, partly because management and resource constraints shape fertilizer use. Petri et al. (2024) similarly showed that financial

limitations constrain smallholder replanting and farm investment. The present study adds a narrative explanation: farmers may reduce fertilizer use not because they do not understand its importance, but because household cash flow forces them to choose between plantation maintenance and immediate family needs.

FFB Selling Prices as Planning Information and a Source of Uncertainty

FFB selling price was narrated as the main signal used by farmers to plan household spending. When prices increase, farmers feel more confident to buy fertilizer, pay debts, repair equipment, and meet family needs. When prices fall, the household immediately changes spending priorities. An informant stated, “If the price is high, we can breathe a little. But when the price drops, we must be careful with every expense.” This statement illustrates that the selling price functions not only as revenue information but also as a psychological reference for household security.

Farmers also emphasized that price uncertainty is difficult to manage because they have limited influence over price formation. Local collectors and mills are seen as actors with stronger bargaining power. In practice, farmers often accept the price offered because they need immediate cash and lack alternative marketing channels. This condition makes FFB price information both essential and frustrating: it is the basis for household planning, yet it is also a figure that farmers cannot fully control.

These findings are consistent with RAMADHANA et al. (2021), who found that oil palm farming significantly contributes to household income and expenditure in West Sulawesi. They are also aligned with Reich et al. (2025), who showed that price shocks can expose oil palm smallholders to vulnerability, especially when market structures mediate how national or global price changes reach the farm gate. The present study contributes a qualitative layer by showing how price changes are translated into everyday household decisions such as postponing consumption, delaying plantation maintenance, or relying on family labor.

The interpretation of FFB price as planning information also has management accounting relevance. In formal firms, selling price is used to estimate revenue, margin, and business continuity. In these farming households, the same function appears informally: farmers compare expected harvest volume, estimated FFB price, labor cost, and household needs before making decisions. This supports Hayden et al. (2022), who argued that farmers' financial decision-making involves sensemaking rather than purely formal calculation.

Household Economic Dynamics and Adaptation Strategies

The imbalance between production costs and selling prices encouraged farmers to develop several adaptation strategies. The first strategy was reducing and postponing non-urgent household expenditure. Informants explained that spending on social events, home improvements, and non-essential purchases could be delayed when fertilizer or maintenance costs became urgent. This does not mean that households stopped consuming; rather, they reorganized their spending hierarchy based on the most immediate risks.

The second strategy was using family labor and collective labor arrangements. One farmer explained, “If we can do it ourselves, we do it ourselves so that we do not need to spend additional money on workers.” Another informant described a rotating harvest group involving several families, with labor costs distributed more lightly among participants. This strategy shows that households do

not respond passively to economic pressure. They actively mobilize social relationships to reduce cash expenses.

The third strategy was income diversification. A family member explained that the household could not rely only on oil palm because prices were uncertain. Cocoa farming and other non-oil palm activities were therefore used as additional income sources. This strategy reflects a practical understanding of livelihood resilience: diversification may not replace oil palm income, but it provides a buffer when prices decline or when production costs absorb a large share of harvest income.

These strategies are consistent with the sustainable livelihood perspective and with recent studies showing that oil palm smallholder outcomes depend on asset ownership, market access, institutional support, and household strategy. Anas et al. (2025) found that different smallholder typologies in West Sulawesi have different assets, strategies, and livelihood outcomes. Li (2024) argued that securing smallholder livelihoods requires support that protects income without encouraging further land expansion. The present findings support these arguments by showing that household resilience is built through small, repeated decisions rather than through a single intervention.

Table 2.
Emerging themes and household adaptation strategies

Theme	Narrative meaning	Adaptation strategy
Rising production costs	Costs are understood as household pressure, not only farm expenditure.	Postponing non-urgent spending; adjusting fertilizer and maintenance decisions.
FFB price fluctuation	Selling price is used as the main signal for planning household cash flow.	Prioritizing essential needs; delaying purchases and farm investment when prices fall.
Limited cash flow	Farm and household finances are treated as one economic space.	Using family labor; collective harvesting to reduce cash labor cost.
Income uncertainty	Oil palm income is important but not always sufficient or predictable.	Diversifying income through cocoa farming and other activities.

Source: Interview and observation data processed, 2026.

Discussion: Positioning the Findings in Relation to Previous Studies

The first major finding is that production costs are experienced as a pressure that connects plantation management with household survival. Quantitative studies often show that fertilizer, labor, and transport costs affect income, but they do not always explain how farmers feel and respond when those costs increase. This study shows that rising costs create a chain of household adjustments: fertilization may be reduced, maintenance may be delayed, consumption may be restricted, and family members may become unpaid or underpaid labor. This deepens the explanation offered by Lim et al. (2023); Petri et al. (2024) by revealing the household reasoning behind cost-control decisions.

The second finding is that FFB price serves as an informal planning tool. Farmers use price information to estimate whether the harvest will cover farm costs and family needs. This finding is consistent with studies on price vulnerability and household income (RAMADHANA et al., 2021; Reich et al., 2025), but it adds that price fluctuations also create emotional and managerial

uncertainty. For farmers, a low price is not merely a lower number; it is a signal to tighten spending, delay plans, and prepare for possible shortfalls.

The third finding concerns informal management accounting. Farmers in Bambalamotu Village do not produce formal ledgers, budgets, or cost reports. However, they still perform basic management accounting functions: identifying cost components, estimating revenue, setting spending priorities, controlling labor costs, and evaluating whether farm operations remain worthwhile. This finding corresponds with farm accounting literature, which suggests that farmers often rely on informal accounting and practical knowledge in decision-making (Hayden et al., 2022; Tingey-Holyoak et al., 2023).

The findings can also be interpreted through the concept of household resilience. Household resilience refers to the capacity of households to anticipate, absorb, adapt to, and recover from economic shocks while maintaining essential livelihood functions. In Bambalamotu Village, resilience was reflected not in the absence of financial stress, but in the households' ability to reorganize expenditure priorities, mobilize family labor, diversify income sources, and postpone non-essential consumption. These adaptive responses demonstrate that resilience is a dynamic process of continuous adjustment rather than a fixed economic condition. The present findings therefore extend the household resilience literature by illustrating how repeated micro-level financial decisions enable farming households to cope with persistent production cost increases and volatile FFB prices.

The results are likewise consistent with the perspective of behavioral accounting, which recognizes that economic decisions are influenced not only by objective financial information but also by individual perceptions, experiences, heuristics, and psychological responses to uncertainty. Although the farmers did not prepare formal accounting reports, they continuously interpreted production costs and expected FFB prices based on previous experiences before deciding whether to purchase fertilizer, hire labor, postpone expenditures, or seek alternative income. This finding suggests that accounting information in smallholder agriculture functions as a behavioral decision-support mechanism embedded in everyday practice rather than as a formal reporting system. Consequently, farmers' financial decisions reflect both economic calculation and subjective judgment under uncertain market conditions.

The fourth finding is that household adaptation is relational. The household does not adapt only through individual discipline, but also through family labor, collective harvesting, and informal cooperation. This resonates with Eggen et al. (2024), who highlighted that independent smallholders face barriers to inclusion in sustainable supply chains, and with de Vos et al. (2023), who showed that smallholder readiness for certification depends on social, institutional, and farm-level conditions. In Bambalamotu, the lack of strong institutional support makes household and community-level strategies especially important. Compared with previous studies, the contribution of this article lies in the interpretation of cost and price as lived household knowledge. Previous research has established that oil palm can increase income and support rural welfare, but it can also expose smallholders to price, cost, and governance risks (Pramudya et al., 2022). This study adds that farmers actively construct meaning from those risks. They are not simply affected by markets; they read costs, interpret prices, and translate economic information into survival strategies.

These findings have important policy implications for local governments, agricultural extension agencies, and farmer cooperatives. First, local governments should strengthen the dissemination of

transparent and regularly updated FFB reference prices through digital platforms, village information boards, and extension services to reduce information asymmetry between farmers and buyers. Second, district governments should facilitate easier access to subsidized fertilizers, low-interest production credit, and transportation infrastructure improvements to reduce production costs borne by independent smallholders. Third, farmer cooperatives should be strengthened to collectively procure production inputs, negotiate better FFB selling prices with mills, and provide shared transportation services, thereby improving farmers' bargaining power and reducing transaction costs. In addition, cooperatives and agricultural extension officers should organize practical financial literacy and simple farm-recording training programs that integrate household and farm cash-flow management. Such interventions would not only improve farm profitability but also enhance household resilience by enabling farmers to make more informed and sustainable financial decisions under conditions of market uncertainty (de Vos et al., 2023; Eggen et al., 2024; Li, 2024).

CONCLUSION

This study shows that independent oil palm farmers in Bambalamotu Village do not experience production costs and FFB selling prices merely as farm business figures. They interpret them as household economic realities that shape decisions about food, education, health, plantation maintenance, and future expectations. Rising fertilizer, herbicide, labor, transport, and maintenance costs reduce household flexibility, while fluctuating FFB prices create uncertainty in planning family expenditures. The findings reveal that farmers use economic information informally. Although they do not maintain formal management accounting records, they remember cost components, compare prices, calculate expected income, and decide whether to fertilize, postpone expenses, use family labor, or seek additional income. This finding expands the discussion of management accounting by showing that accounting functions can exist as practical knowledge embedded in everyday smallholder life. The practical implication is that farmer assistance should not only focus on increasing production but also on strengthening cost planning, price information access, cooperative marketing, and simple household-farm financial recording. Local governments, farmer groups, and extension institutions can support independent farmers by improving access to affordable inputs, transparent FFB price information, and financial literacy programs that are compatible with farmers' everyday practices.

From a theoretical perspective, this study contributes to the literature by integrating household resilience and behavioral accounting into the understanding of independent smallholder decision-making. The findings demonstrate that farmers' responses to production costs and FFB price fluctuations are shaped not only by economic conditions but also by adaptive household strategies and behavioral interpretations of financial information. These perspectives provide a broader understanding of how informal accounting practices support livelihood sustainability in rural agricultural communities. Future research should involve more informants across different villages and compare independent farmers with scheme smallholders to understand how institutional arrangements shape household economic resilience.

REFERENCES

- Anas, K., Naping, H., Salman, D., & Tenriawaru, A. N. (2025). Differences in Assets, Strategies, and Livelihood Outcomes Among Oil Palm Smallholder Typologies in West Sulawesi, Indonesia. *Sustainability (Switzerland)*, 17(13). <https://doi.org/10.3390/su17136064>
- de Vos, R. E., Suwarno, A., Slingerland, M., van der Meer, P. J., & Lucey, J. M. (2023). Pre-

- certification conditions of independent oil palm smallholders in Indonesia. Assessing prospects for RSPO certification. *Land Use Policy*, 130. <https://doi.org/10.1016/j.landusepol.2023.106660>
- Eggen, M., Heilmayr, R., Anderson, P., Armson, R., Austin, K., Azmi, R., Bayliss, P., Burns, D., Erbaugh, J. T., Ekaputri, A. D., Gaveau, D. L. A., Grabs, J., Greenbury, A., Gulagnar, I., Hanu, M. A., Hill, T., Leegwater, M., Limberg, G., Opal, C., ... Carlson, K. M. (2024). Smallholder participation in zero-deforestation supply chain initiatives in the Indonesian palm oil sector: Challenges, opportunities, and limitations. *Elementa*, 12(1). <https://doi.org/10.1525/elementa.2023.00099>
- Gaveau, D. L. A., Locatelli, B., Salim, M. A., Husnayaen, Manurung, T., Descals, A., Angelsen, A., Meijaard, E., & Sheil, D. (2022). Slowing deforestation in Indonesia follows declining oil palm expansion and lower oil prices. *PLoS ONE*, 17(3 March). <https://doi.org/10.1371/journal.pone.0266178>
- Hayden, M. T., Mattimoe, R., & Jack, L. (2022). Sensemaking and financial management in the decision-making process of farmers. *Journal of Accounting and Organizational Change*, 18(4), 529–552. <https://doi.org/10.1108/JAOC-11-2020-0186>
- Li, T. M. (2024). Securing oil palm smallholder livelihoods without more deforestation in Indonesia. *Nature Sustainability*, 7(4), 387–393. <https://doi.org/10.1038/s41893-024-01279-w>
- Lim, Y. L., Tenorio, F. A., Monzon, J. P., Sugianto, H., Donough, C. R., Rahutomo, S., Agus, F., Slingerland, M. A., Darlan, N. H., Dwiyahreni, A. A., Farrasati, R., Mahmudah, N., Muhamad, T., Nurdwiansyah, D., Palupi, S., Pradiko, I., Saleh, S., Syarovy, M., Wiratmoko, D., & Grassini, P. (2023). Too little, too imbalanced: Nutrient supply in smallholder oil palm fields in Indonesia. *Agricultural Systems*, 210. <https://doi.org/10.1016/j.agsy.2023.103729>
- Petri, H., Hendrawan, D., Bähr, T., Musshoff, O., Wollni, M., Asnawi, R., & Faust, H. (2024). Replanting challenges among Indonesian oil palm smallholders: a narrative review. *Environment, Development and Sustainability*, 26(8), 19351–19367. <https://doi.org/10.1007/s10668-023-03527-z>
- Pramudya, E. P., Wibowo, L. R., Nurfatriani, F., Nawireja, I. K., Kurniasari, D. R., Hutabarat, S., Kadarusman, Y. B., Iswardhani, A. O., & Rafik, R. (2022). Incentives for Palm Oil Smallholders in Mandatory Certification in Indonesia. *Land*, 11(4). <https://doi.org/10.3390/land11040576>
- RAMADHANA, A., AHMED, F., & THONGRAK, S. (2021). The Impact of Oil Palm Farming on Household Income and Expenditure in Indonesia*. *Journal of Asian Finance, Economics and Business*, 8(4), 539–547. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0539>
- Reich, C. E., Ölkens, T., Bonke, V., & Musshoff, O. (2025). Beyond the Ban—Shedding Light on Smallholders’ Price Vulnerability in Indonesia’s Palm Oil Industry. *Applied Economic Perspectives and Policy*. <https://doi.org/10.1002/aepp.70040>
- Tingey-Holyoak, J. L., Wheeler, S. A., & Seidl, C. (2023). Decision-making and resilience in agriculture: improving awareness of the role of accounting. *Meditari Accountancy Research*, 31(6), 1735–1756. <https://doi.org/10.1108/MEDAR-05-2022-1679>