

Beyond the Plantation Boundary: Community Oil Palm Partnerships, Smallholder Inclusion, and Rural Economic Development – A Review Anchored in PT Minamas Plantation, Indonesia

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ABSTRACT

Indonesia's oil palm sector contributes substantially to rural livelihoods, yet smallholders continue to face constraints related to productivity, finance, institutional capacity, certification, and bargaining power. This qualitative literature review examines how company–community oil palm partnerships can support inclusive rural development, using PT Minamas Plantation's emerging initiatives as a case anchor. Literature published primarily during 2020–2026 was synthesized across partnership governance, livelihoods, farmer organizations, productive capability, finance, replanting, certification, and sustainability. The findings show that partnership benefits are conditional rather than automatic and depend on transparent governance, capable farmer organizations, technical support, appropriate financing, market access, and environmental safeguards. The study proposes the Inclusive Partnership-to-Prosperity Framework (IPPF) as a literature-derived analytical framework linking partnership resources, governance mediators, operational mechanisms, household outcomes, and community outcomes. Because Minamas initiatives remain recent, the framework provides propositions for future longitudinal evaluation rather than evidence of demonstrated causal impacts on shared prosperity and rural resilience.

ABSTRAK

Sektor kelapa sawit Indonesia memberikan kontribusi besar terhadap penghidupan masyarakat perdesaan, namun petani kecil masih menghadapi berbagai kendala terkait produktivitas, pembiayaan, kapasitas kelembagaan, sertifikasi, dan daya tawar. Kajian literatur kualitatif ini menganalisis bagaimana kemitraan perusahaan–masyarakat dalam sektor kelapa sawit dapat mendukung pembangunan perdesaan yang inklusif, dengan menggunakan inisiatif kemitraan PT Minamas Plantation yang sedang berkembang sebagai konteks kasus. Literatur yang diterbitkan terutama pada periode 2020–2026 disintesis mencakup tata kelola kemitraan, penghidupan, organisasi petani, kapabilitas produktif, pembiayaan, peremajaan, sertifikasi, dan keberlanjutan. Hasil kajian menunjukkan bahwa manfaat kemitraan bersifat kondisional, bukan otomatis, dan bergantung pada tata kelola yang transparan, organisasi petani yang kapabel, dukungan teknis, pembiayaan yang sesuai, akses pasar, serta perlindungan lingkungan. Penelitian ini mengusulkan Inclusive Partnership-to-Prosperity Framework (IPPF) sebagai kerangka analitis berbasis literatur yang menghubungkan sumber daya kemitraan, mediator tata kelola, mekanisme operasional, hasil rumah tangga, dan hasil pada tingkat komunitas. Karena inisiatif Minamas masih relatif baru, kerangka ini menawarkan proposisi untuk evaluasi longitudinal di masa mendatang, bukan bukti dampak kausal yang telah terkonfirmasi terhadap kesejahteraan bersama dan ketahanan perdesaan.

1. INTRODUCTION

Palm oil occupies a paradoxical position in contemporary development debates. On the one hand, oil palm is among the most productive vegetable-oil crops and has become deeply embedded in Indonesia's rural economy, supporting farming households, plantation labor, processing, logistics, trade, fiscal revenues, and downstream industries. On the other hand, expansion has been associated with deforestation, biodiversity

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loss, land conflicts, labor concerns, and unequal access to the economic gains generated by commodity development. The central policy challenge is therefore no longer simply whether oil palm should contribute to development, but under what institutional arrangements its economic benefits can be broadened while environmental and social costs are contained (Qaim et al., 2020; Purnomo et al., 2020; Putri et al., 2022; Yuliani et al., 2020).

Smallholders are fundamental to this challenge. Indonesian oil palm is not exclusively a corporate plantation economy; a large share of planted area is managed by smallholders whose livelihoods depend directly or indirectly on fresh fruit bunch production. Research increasingly demonstrates that oil palm adoption can raise household consumption, improve dietary quality, support education expenditure and asset accumulation, and reduce some dimensions of economic vulnerability. Yet these gains vary markedly across household types, institutional histories, landholdings, market connections, and access to non-farm opportunities (Mehraban et al., 2021; Chrisendo, Siregar & Qaim, 2022; Herdiansyah et al., 2020; Anas et al., 2025).

The diversity of smallholder trajectories makes partnership design a central concern. Indonesia has long experimented with nucleus-plasma arrangements, Perkebunan Inti Rakyat schemes, cooperative credit models, company-supported outgrowers, and, more recently, forms of community plantation facilitation. Such arrangements can overcome barriers that individual farmers struggle to address alone: access to planting material, long-term capital, technical expertise, mills, logistics, certification, and market information. However, contractual coordination also redistributes control. A scheme that provides resources may raise production capacity while simultaneously creating dependency through debt, exclusive marketing arrangements, opaque deductions, or unequal control over information (Meemken & Bellemare, 2020; Bellemare, Lee & Novak, 2021; Ruml, Ragasa & Qaim, 2022; Vicol et al., 2022).

PT Minamas Plantation offers a timely case through which these issues can be examined. In December 2024, Minamas subsidiaries PT Kridatama Lancar and PT Teguh Sempurna initiated planting for a community partnership plantation in Desa Kapuk, Mentaya Hulu, Central Kalimantan. Public reporting stated that the planned partnership area was approximately 284 hectares, with roughly 42 hectares initially cleared and planted, and the stated aim was to create a productive community asset capable of generating sustainable income (ANTARA News Kalteng, 2024). In May 2026, PT Padang Palma Permai, another Minamas subsidiary, commenced a Fasilitas Pembangunan Kebun Masyarakat Sekitar initiative covering 71.32 hectares involving four villages in Aceh Tamiang, with Koperasi Produsen Mitra Tamiang Maju positioned as the community institution for participatory plantation management (Indonesia Media Center, 2026; Minamas Plantation, 2026).

These initiatives are analytically significant but empirically young. Palms planted in late 2024 or 2026 cannot yet provide sufficiently mature longitudinal evidence on household income, debt repayment, yield stability, cooperative performance, or village-level economic multipliers. Consequently, this article does not claim that Minamas' current FPKMS projects have already reduced poverty or transformed local economies. Instead, the projects are treated as an emerging institutional case whose design and future potential can be assessed against contemporary evidence on oil palm smallholders, plasma arrangements, contract farming, farmer organizations, certification, rural livelihoods, and sustainable intensification.

The research gap lies not in the absence of studies on oil palm smallholders, but in the limited integration of the institutional, productive, financial, social, and environmental mechanisms through which company-community partnerships may generate inclusive rural development. Existing studies have provided important evidence on household welfare, productivity, contract farming, farmer organizations, replanting, certification, land legality, and environmental performance. However, these dimensions are frequently examined as separate analytical problems. This fragmentation limits understanding of how they interact within a partnership system. For example, access to quality planting material may improve productive potential but remains insufficient without affordable long-term finance and technical capability; certification may facilitate market inclusion but depends on legal documentation, collective organization, and compliance capacity; and higher yields may not translate into improved household welfare when debt obligations, operating costs, or revenue deductions are poorly governed. Likewise, improvements at the household level do not necessarily generate broader community development without mechanisms that create employment, local procurement, enterprise development, and public-good spillovers (Krishna & Kubitza, 2021; Watts et al., 2021; Ogahara et al., 2022).

An integrated partnership perspective is therefore necessary because the developmental effects of

company–community oil palm partnerships emerge from the interaction of resources, governance arrangements, operational capabilities, household responses, and wider community conditions rather than from any single intervention. This perspective is particularly relevant to PT Minamas Plantation’s emerging initiatives in Desa Kapuk and Aceh Tamiang. Because these initiatives are still too recent to provide mature evidence of socioeconomic impact, they offer an appropriate case anchor for examining how findings from the wider literature can be organized into a framework for future evaluation rather than for making claims about outcomes that have not yet been demonstrated.

Accordingly, this review addresses three broader research questions: (1) Through what mechanisms can company–community oil palm partnerships translate productive resources and institutional support into improved smallholder and household outcomes? (2) What governance, financial, organizational, social, and environmental conditions shape whether these benefits become inclusive, resilient, and sustainable? (3) How can these mechanisms and conditions be integrated into an analytical framework for evaluating the emerging Minamas initiatives and comparable company–community oil palm partnerships over time? These questions allow the thematic synthesis to move beyond separate assessments of productivity, finance, certification, or cooperative organization toward an integrated explanation of how partnership arrangements may contribute to shared prosperity.

The article contributes by developing an Inclusive Partnership-to-Prosperity Framework (IPPF) as a literature-derived analytical framework rather than as a validated causal model. The IPPF integrates partnership resources, governance mediators, operational mechanisms, household outcomes, community-level outcomes, and environmental and social boundary conditions. Rather than evaluating partnership success primarily through hectares planted or the number of participating farmers, the framework provides a structured basis for examining whether productive assets are accompanied by transparent governance, sustainable net household value, institutional capability, resilience, equitable benefit distribution, and broader local economic spillovers. In this sense, hectares of community plantation represent an input to the development process, while shared prosperity remains an outcome that must be demonstrated empirically over time.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

2.1 Oil Palm, Smallholders, and Rural Transformation

The economic case for smallholder oil palm is supported by a substantial body of recent evidence. Mehraban et al. (2021) show that cultivation can raise household living standards while reducing downside economic risk partly because oil palm’s relatively low labor requirements permit greater participation in off-farm work. Chrisendo, Siregar & Qaim (2022) further demonstrate that gains extend beyond immediate farm income to dietary quality, education expenditures, assets, electricity use, and other components of human-capital formation. Herdiansyah et al. (2020) similarly emphasize the relationship between cultivation practices, productivity, and smallholder prosperity. These findings justify viewing oil palm not only as a crop but as a potential platform for household accumulation and structural change.

Nevertheless, economic transformation is heterogeneous. Toumbourou & Dressler (2021) show that plantation-dominated landscapes can constrain customary livelihood options and produce differentiated gender effects. Chrisendo et al. (2020) find that oil palm-related land-use change can alter household labor allocation and gender roles even when dietary quality improves. Mulyasari, Djarot & Sasongko (2023) identify persistent social sustainability concerns among smallholder plantations, including labor standards, occupational safety, price volatility, and food-security vulnerabilities. Sukiyono et al. (2024) further show that smallholder oil palm contributes to several Sustainable Development Goals but with uneven outcomes across social and institutional dimensions.

The distinction between private and community benefits is equally important. Krishna & Kubitza (2021) find that oil palm expansion in Indonesia positively affected the provision of several private household goods but had weaker effects on many community goods. This implies that the accumulation of household assets does not automatically finance roads, schools, water systems, collective institutions, or other public goods. Sustainable community partnership therefore requires explicit mechanisms for generating spillovers: local employment, village-level procurement, farmer-owned enterprises, cooperative capital formation, and coordinated public investment.

2.2 From Nucleus–Plasma to Contemporary Partnership

Indonesia’s historical nucleus–plasma architecture attempted to combine corporate management capability

with smallholder asset creation. Under ideal conditions, the nucleus supplied technical expertise, processing capacity, inputs, credit coordination, and market access, while smallholders acquired plantation assets and eventually assumed greater management responsibility. Yet the long-term performance of former scheme areas demonstrates that initial standardization does not guarantee later homogeneity. Mettauer et al. (2021) find substantial variation in management practices and economic performance among ex-plasma smallholders in Jambi, including a trade-off between very intensive input use and optimal smallholder profitability.

The experience of Ophir is especially instructive. Jelsma et al. (2024), examining four decades of smallholder oil palm cultivation, show that farmer organizations can support sustainable intensification and replanting, but organizational resilience varies with financial management, farmer heterogeneity, landscape conditions, palm age, and broader collective-action structures. Cooperatives are therefore not a silver bullet. They reduce transaction costs and create scale only when governance quality, accounting, leadership, member participation, and external relationships remain functional over decades.

Recent Indonesian partnership studies reinforce the importance of trust and institutional quality. Trieanto, Ismiasih & Manumono (2022) connect farmer satisfaction and partnership continuity with institutional coordination, participation, financial accountability, good agricultural practices, and risk-management support. Baka, Rianse & Zulfikar (2024) show that social capital—including trust, reciprocity, participation, networks, solidarity, and local wisdom—can strengthen company-farmer cooperation, whereas corporate inconsistency and lack of openness can generate a trust crisis that threatens partnership sustainability.

These findings are directly relevant to FPKMS-type arrangements. A company may facilitate the physical establishment of a plantation, but the developmental content of the partnership depends on who owns the productive asset, who controls the cooperative, how revenue and costs are disclosed, how land and participant eligibility are determined, whether farmers can scrutinize management decisions, and how the relationship changes after the plantation reaches maturity. Recent Indonesian research on corporate farming similarly argues that cooperative organization and coordinated market relationships can support a more sustainable crude palm oil supply chain for independent smallholders (Witjaksono et al., 2024).



Figure 1. Evolution of Oil Palm Partnership Models in Indonesia: From Nucleus-Plasma to Community Plantation Facilitation.

Figure 1 emphasizes that contemporary arrangements should be analyzed according to the allocation of rights and obligations rather than labels. Two projects may both be described as plasma or community partnership while differing sharply in ownership, financing, decision-making, revenue sharing, and exit arrangements. The developmental quality of FPKMS therefore depends on whether it genuinely strengthens community agency and productive ownership over time.

2.3 Contract Farming, Risk Sharing, and Bargaining Power

The broader contract-farming literature provides a useful analytical lens because plantation partnerships typically combine production coordination, input provision, finance, technical assistance, and marketing commitments. Meemken & Bellemare (2020), using data from multiple developing countries, caution that the positive welfare effects of contract farming are not universal across contexts, although contracts may increase hired-labor demand. Ola & Menapace (2020) likewise show that participation in higher-value markets is strongly influenced by credit access, asset ownership, farmer organizations, extension, and other context-specific enabling conditions.

Contract design matters because different contracts solve different market failures. Ruml, Ragasa & Qaim (2022), analyzing oil palm contracts, distinguish simple marketing arrangements from more comprehensive resource-providing contracts. Bellemare, Lee & Novak (2021) demonstrate another function of contracts: fixed-price arrangements may transfer part of price risk from farmers to buyers and thereby reduce household income variability. Bezabeh et al. (2020) show that contract participation can raise income where buyers reduce market and input constraints, while Levi et al. (2020) demonstrate how improved market coordination can increase farmer profitability.

However, contracts also structure power. Ray, Clarke & Waley (2021) find that contract farming can improve income security while creating debt pressures, anxiety over quality controls, and exclusion of marginal farmers. Vicol et al. (2022) argue that contract farming must be situated within the political economy of agrarian transformation because apparently voluntary arrangements may embody unequal access to information, capital, markets, and alternative buyers. Wangu et al. (2021) similarly warn that inclusive-business claims should be tested against actual household welfare outcomes rather than inferred from business-model labels.

Accordingly, a robust community plantation agreement should clarify land rights, financing terms, management fees, operating expenses, FFB pricing rules, debt schedules, mortality and replanting responsibilities, audit rights, profit distribution, insurance, dispute resolution, and the circumstances under which community organizations gain greater managerial control. Without such transparency, partnership risks becoming a relationship in which farmers nominally own an asset but lack sufficient information to evaluate its economic performance.

2.4 Social Capital, Cooperatives, and Collective Action

Collective organization is critical because individual smallholders face high transaction costs in purchasing inputs, accessing finance, negotiating with mills, obtaining certification, and adopting traceability systems. Abdul-Rahaman & Abdulai (2020) show that participation in organized value chains and stronger social networks can improve farm-gate market performance. Saptutyningsih, Diswandi & Jaung (2020) demonstrate the importance of trust, participation, and cross-community relationships for collective adaptation, while Cordaro & Desdoigts (2021) show that bridging ties through agricultural organizations can facilitate learning and technology adoption.

In oil palm, collective action is particularly important because mills operate at scale and FFB is perishable. Farmers with weak organizations face difficulties negotiating transport, verifying weights and quality deductions, aggregating production, maintaining records, and meeting certification requirements. Farmer organizations can therefore function simultaneously as marketing organizations, learning networks, compliance institutions, and mechanisms of political representation. Prayogo, Nurliza & Suyatno (2025) likewise identify institutional participation as an important factor in strengthening independent smallholder organization.

Yet collective organization does not automatically guarantee inclusion. Internal democracy, representation, and financial transparency matter because elite capture may reproduce rather than reduce inequality. Membership lists, board elections, financial statements, procurement decisions, conflict-of-interest rules, and member access to information should therefore be treated as core development indicators.

2.5 Productivity, Technology, and Sustainable Intensification

Smallholder yield gaps are frequently attributed to poor planting material, suboptimal fertilizer regimes, weak pest management, limited record keeping, inadequate extension, and delayed replanting. Mettauer et

al. (2021) demonstrate that management practices matter, but the economically optimal level of intensification differs from simply maximizing biological yield. Rudolf et al. (2021) find that empty fruit bunch mulching was associated with higher yields and soil organic carbon, while access to such practices depended partly on smallholders' links to mills. Sibhatu, Tabe-Ojong & Siregar (2025) add evidence that nature-based land-management practices can influence yield dynamics among Indonesian smallholders. Recent field evidence across six Indonesian oil palm regions likewise shows that suboptimal fertilizer use reflects intertwined agronomic and socioeconomic constraints, underscoring the need to connect technical recommendations with affordability, farmer knowledge, and reliable input access (de Vos et al., 2026).

More recent evidence emphasizes that management assistance should be differentiated. Reiss-Woolever et al. (2025) find substantial variation in socio-demographic profiles, attitudes, and management practices among smallholders participating in private, non-profit, and plantation-linked assistance programs. Syahputra et al. (2026) further caution that sustainability certification by itself does not ensure full adoption of good agricultural practices (GAP). A successful partnership should therefore collect farm-level data and tailor recommendations to soil conditions, palm age, household labor, access to capital, and environmental risk.

2.6 Replanting, Finance, and Intergenerational Sustainability

Oil palm is a long-lived biological asset. A partnership can appear successful during the mature high-yield phase yet fail when palms become old and replanting requires large up-front investment combined with several years of reduced or absent FFB income. Petri et al. (2024) identify access to knowledge, planting material, inputs, and finance as central replanting constraints. Siregar et al. (2024) show that land certification and farming experience influence smallholders' willingness to participate in replanting, while Hendrawan & Musshoff (2024) demonstrate that the design of replanting subsidies affects farmer preferences and participation.

Resilience is therefore inseparable from partnership design. Hendrawan, Chrisendo & Musshoff (2024) argue that climate change, aging palms, policy changes, and market pressures create multidimensional resilience challenges. Jelsma et al. (2024) show that weak collective financial management can become particularly damaging during replanting. Maryadi, Sulastri & Antoni (2026) additionally examine the feasibility of bank-linked financing for smallholder replanting, highlighting the continuing importance of credit design.

For Minamas-type partnerships, replanting reserves should begin accumulating well before the end of the first production cycle. A transparent reserve could be complemented by public replanting programs and bank finance. Without such a mechanism, the partnership risks creating a future cliff in which households dependent on aging palms lack sufficient resources to replant. Income bridging through intercropping, non-farm employment, savings, insurance, and carefully structured credit is equally important.

2.7 Certification, Traceability, and Market Inclusion

Sustainability certification is often presented as a pathway to better environmental practices and market access, but the smallholder evidence is mixed. Apriani et al. (2020) find that certified independent smallholders often require substantial external facilitation and that direct financial benefits can be modest. Watts et al. (2021) identify structural barriers involving legality, organization, finance, and historical access to government or company support. De Vos et al. (2023) similarly find that many successfully certified independent farmers were former scheme smallholders who already possessed land documentation and group organization.

Certification alone should not be treated as equivalent to sustainability. Ogahara et al. (2022) conclude that certification has produced limited positive impacts in some domains and may fail to resolve persistent problems such as low income, low productivity, and insecure tenure. Santika et al. (2021) find that the poverty effects of RSPO certification vary according to pre-existing village livelihood systems. Aziz, Chamhuri & Batt (2021) likewise identify both benefits and barriers for smallholder adoption of sustainability certification.

Recent evidence adds further nuance. Renner et al. (2024) associate RSPO certification with higher profits and altered agrochemical use among scheme smallholders, while Irawan et al. (2024) show that certification costs can fall substantially when farmers are organized at sufficient scale. Pramudya et al. (2022) and Wibowo et al. (2023) emphasize incentives, regulatory facilitation, technical support, and coordinated government action as prerequisites for accelerating smallholder certification. Reich & Musshoff (2025) similarly

identify training and economic incentives as important to certification uptake.

Most importantly, Ekaputri et al. (2025) show that contract smallholders are disproportionately represented in certified mill markets, while independent smallholders account for a far smaller share of certified mill supply than their regional production importance would suggest. Syahputra et al. (2024) also demonstrate that certified and non-certified smallholders experience different configurations of production and income risk. This evidence supports using partnership infrastructure to reduce rather than reproduce the certification divide.

2.8 Environmental Legitimacy and Social Licence

Oil palm's contribution to rural income cannot be separated from environmental legitimacy. Qaim et al. (2020) summarize the sector's central trade-off: oil palm has supported income growth and employment while contributing to tropical deforestation and biodiversity loss. Purnomo et al. (2020) show that intensification, forest protection, land-use planning, and value-chain reform can produce more favorable economic–environmental combinations than uncontrolled expansion. Li (2024) argues that stronger support for smallholders on existing agricultural land can secure livelihoods without requiring further forest loss.

Dalheimer et al. (2024) demonstrate that smallholder production has scope to improve environmental performance while maintaining output. Supriatna et al. (2024) stress that sustainability must be assessed multidimensionally across economic, social, institutional, technological, and environmental components. Environmental safeguards should therefore be incorporated before planting: clear land status, no conversion of high-conservation-value areas, protection of riparian zones, fire prevention, appropriate chemical management, occupational safety, and geolocation-based traceability.

Plantation development also changes landscapes, property relations, labor systems, and expectations. Yuliani et al. (2020) show that community responses to oil palm promises in Kalimantan cannot be reduced to poverty or immediate income incentives; social embeddedness, values, long-term aspirations, and trust matter. Pasaribu, Vanclay & Zhao (2020) identify significant challenges in socially sustainable community development around Indonesian plantation operations, including capacity gaps, land conflict, and the difficulty of aligning corporate programs with community priorities. Procedural justice is therefore a prerequisite for durable social licence.

3. RESEARCH METHOD

3.1 Research Design

This study adopts a qualitative literature review rather than a systematic literature review. Its objective is interpretive and theory-building: to synthesize contemporary evidence relevant to company–community oil palm partnerships and use that evidence to construct an integrated analytical framework applicable to PT Minamas Plantation's emerging FPKMS initiatives. The review does not claim exhaustive coverage of every publication, does not employ PRISMA, and does not calculate pooled statistical effect sizes. A case-anchored design is employed. Peer-reviewed literature constitutes the principal analytical evidence, while publicly available information about Minamas is used to establish the organizational and program context. This distinction prevents corporate announcements from being treated as evidence of impact. The Minamas case is therefore evaluated against findings from Indonesia and, where theoretically useful, comparative contract-farming evidence from other developing economies.

3.2 Literature Identification and Scope

The core literature covers 2020–2026 and emphasizes peer-reviewed studies on Indonesian oil palm smallholders, partnership, plasma systems, contract farming, farmer organizations, rural livelihoods, replanting, certification, sustainability, and market access. Comparative papers on contract farming, social capital, inclusive value chains, and farmer market participation were included where they illuminated mechanisms not sufficiently developed in oil-palm-specific research. Priority was given to reputable journals and publishers, including World Development, Land Use Policy, Forest Policy and Economics, Agricultural Systems, Ecological Economics, Nature Sustainability, Communications Earth & Environment, Journal of Agricultural Economics, Environmental Research Letters, Journal of Environmental Management, Journal of Environmental Economics and Management, Scientific Reports, Journal of Rural Studies, and related peer-reviewed outlets. Search concepts combined terms such as oil palm smallholder, Indonesia, plasma, partnership, contract farming, farmer organization, cooperative, RSPO, ISPO, replanting, livelihood, resilience, market access, and

social capital.

3.3 Thematic Synthesis and Limitations

The selected studies were interpreted through seven thematic domains: partnership architecture and contract design; household and rural economic outcomes; agronomic capability and productivity; farmer organizations, trust, and collective action; finance and replanting; certification, traceability, and environmental performance; and equity, conflict, and governance risk. These domains provided an organizing structure for comparing findings across studies while allowing relationships among themes to emerge during interpretation. The synthesis proceeded by identifying recurring mechanisms, enabling conditions, constraints, and contradictory findings across the literature. Particular attention was given to how productive resources, governance arrangements, organizational capabilities, and external conditions were associated with different household and community outcomes. Rather than imposing a causal chain, the analysis examined conceptually plausible relationships among these elements and used them to develop the Inclusive Partnership-to-Prosperty Framework (IPPF). The IPPF should therefore be understood as a literature-derived analytical framework and set of propositions, not as a causal model empirically validated within the Minamas case.

Contradictory evidence was deliberately retained in the synthesis. Positive welfare findings were not assumed to override evidence concerning debt exposure, exclusion, gender inequality, weak community spillovers, institutional fragility, or environmental costs. Conversely, evidence of environmental or governance problems was not interpreted as demonstrating that oil palm partnerships cannot contribute to rural development. The analytical objective was instead to identify the combinations of resources, institutional arrangements, and boundary conditions under which more inclusive and sustainable outcomes are reported or theoretically expected. Three limitations should guide interpretation. First, the qualitative review does not provide pooled effect estimates and cannot establish the magnitude or causal direction of the relationships identified across heterogeneous studies. Second, partnership terminology, institutional arrangements, geographic settings, and smallholder characteristics differ substantially across studies, limiting direct comparability. Third, the Desa Kapuk and Aceh Tamiang initiatives are too recent to support robust before-after or longitudinal assessment. Consequently, the application of the IPPF to Minamas should be interpreted as a set of analytically grounded propositions for future evaluation, rather than evidence that the proposed pathways or outcomes have already occurred.

4. DATA ANALYSIS AND DISCUSSION

4.1 Theme 1: Partnership Architecture Determines the Opportunity Set

The first thematic finding is that partnership architecture determines what farmers can realistically achieve. Oil palm requires substantial initial investment, several years before commercial production, continuing agronomic management, access to transport and mills, and eventual replanting. Independent farmers frequently confront these constraints individually. A well-designed partnership can pool capital, technical capacity, management systems, and market access. Studies of contract farming show that access to coordinated buyers and resource-providing arrangements can improve income and reduce some forms of market risk, while market integration and collective organization can improve price realization and profitability (Bezabeh et al., 2020; Levi et al., 2020; Abdul-Rahaman and Abdulai, 2020; Ruml, Ragasa & Qaim, 2022). However, the same architecture determines dependency. Exclusive selling obligations, company-managed accounts, long debt periods, or complex deductions can limit farmer autonomy. The relevant question is therefore not whether a contract exists but whether farmers understand and can influence it. Minimum governance standards should include accessible contracts, disclosure of investment and operating costs, transparent FFB pricing, independent verification of cooperative accounts, clear debt amortization schedules, audit rights, and dispute-resolution procedures.

4.2 Theme 2: Productive Assets Can Raise Welfare, but Spillovers Must Be Designed

A second finding is that productive-asset ownership can be transformative when it generates sustained net income. Contemporary Indonesian evidence links oil palm to consumption gains, education, diet, household assets, and economic resilience (Mehraban et al., 2021; Chrisendo, Siregar & Qaim, 2022). Yet village-level benefits are not automatic. The local multiplier depends on whether income circulates through employment, procurement, services, transport, shops, construction, savings, and rural enterprises rather than leaking out

of the locality. For Minamas, this suggests that community plantation performance should be measured beyond dividend or FFB income. A stronger local-development model would track the share of plantation expenditure procured locally, jobs created for nearby residents, community enterprises entering the supply chain, women- and youth-led business participation, cooperative savings, and the creation of complementary non-palm livelihood activities. In this way, partnership becomes a catalyst for a more diversified rural economy rather than a mechanism for producing a single commodity.

4.3 Theme 3: Capability Building Converts Land into Productive Wealth

The third finding is that distributing or facilitating land without building technical and managerial capability creates fragile assets. Smallholder yields and profits depend on planting material, palm age, fertilizer timing, harvesting discipline, pest management, soil practices, roads, and access to information. Mettauer et al. (2021) demonstrate large variation among former plasma farmers despite initially similar plantations, while Rudolf et al. (2021) show that access to improved practices can be linked to relationships with mills and value-chain infrastructure. A partnership model should therefore contain a long-term capability-development plan rather than one-off training. This includes plantation record keeping, fertilizer budgeting, yield forecasting, safety, environmental management, cooperative accounting, procurement, digital traceability, and succession planning for younger farmers. Training outcomes should be audited by changes in practice and performance, not by the number of workshops delivered.

4.4 Theme 4: Cooperatives Are Governance Institutions, Not Administrative Containers

The fourth theme concerns farmer organizations. Cooperatives can aggregate output, lower certification costs, negotiate services, manage savings, own machinery, represent members, and serve as counterparties to companies and banks. However, evidence from long-running oil palm schemes shows that collective action can deteriorate during moments of financial stress or leadership transition (Jelsma et al., 2024). Social capital can sustain partnership, but it depends on trust and reciprocity that are easily damaged by opaque management or perceived unfairness (Baka, Rianse & Zulfikar, 2024). For the Aceh Tamiang initiative, the involvement of Koperasi Produsen Mitra Tamiang Maju creates an institutional vehicle through which community participation can potentially be organized. Yet the cooperative's developmental effect will depend on governance standards: audited accounts, member meetings, disclosure of revenues and liabilities, transparent beneficiary lists, democratic elections, conflict-of-interest rules, women's participation, accessible complaint channels, and continuous managerial training.



Figure 2. Inclusive Partnership-to-Prosperty Framework for Company–Community Oil Palm Partnerships.

Figure 2 emphasizes that the causal pathway contains multiple potential breakpoints. Capital and land can fail to generate income if planting material or management is poor; high yields can fail to improve welfare if debt service is excessive; rising household income may fail to produce community development if local multipliers are weak; and economic success can lose legitimacy if land conflict or environmental damage is unresolved. Partnership therefore requires simultaneous management of production, institutions, distribution, and sustainability.

4.5 Theme 5: Replanting Is the Ultimate Test of Partnership Durability

The fifth finding is that successful establishment is not the same as long-term sustainability. Replanting requires finance and income-bridging strategies decades after the original investment. Petri et al. (2024), Siregar et al. (2024), Hendrawan & Musshoff (2024), and Hendrawan, Chrisendo & Musshoff (2024) collectively show that replanting decisions are shaped by capital constraints, land documentation, farmer experience, policy incentives, risk preferences, and household resilience. A partnership beginning today should therefore design its second planting cycle now. A transparent reserve could be accumulated from mature-year revenues, supplemented by public replanting programs and bank finance. The reserve should be ring-fenced, audited, and visible to members. Without such a mechanism, the partnership risks creating a future cliff in which households dependent on aging palms lack sufficient resources to replant.

4.6 Theme 6: Sustainability Compliance Can Become an Economic Asset

The sixth theme is that sustainability should be integrated as a productive capability rather than imposed as a late compliance cost. Certification and traceability can improve management discipline, access to upgraded markets, and relationships with mills, although benefits vary and certification costs can be substantial. Group organization, external facilitation, legal documentation, and economies of scale materially improve smallholder prospects for certification (Apriani et al., 2020; Watts et al., 2021; de Vos et al., 2023; Irawan et al., 2024). Company-linked partnerships have an opportunity to solve these barriers at inception. Land parcels can be geolocated; legality can be resolved before planting; environmental baselines can be recorded; internal-control systems can be designed into cooperative governance; and training can align with RSPO/ISPO requirements from the outset. Such integration may be significantly cheaper than attempting to retrofit compliance after informal practices become entrenched.

4.7 Theme 7: Partnership Benefits Are Conditional on Fairness

The final theme is that economic inclusion requires attention to distribution. An average rise in partnership income can conceal unequal outcomes across households. Land size, eligibility rules, gender, social status, political influence, and access to cooperative leadership can all affect benefit distribution. Anas et al. (2025) show that livelihood outcomes differ across smallholder typologies, and Reiss-Woolever et al. (2025) find substantial heterogeneity even within management-assistance programs. Ray, Clarke & Waley (2021) additionally show that marginal farmers can be excluded from contract systems despite broader welfare narratives. Consequently, Minamas and partner cooperatives should monitor who participates, who receives land-related benefits, who occupies leadership positions, who obtains paid work, and who bears costs. Gender-disaggregated and wealth-disaggregated reporting would improve the credibility of shared-prosperity claims. Partnership should not merely make participants richer; it should demonstrate that selection and benefit allocation are procedurally fair and that vulnerable households are not systematically excluded.

4.8 Discussion and Analysis

4.8.1 Reinterpreting Partnership as a Development Institution

The evidence supports a shift in how plantation partnership is conceptualized. Traditional approaches often treat plasma or community plantation development as a physical obligation measured through planted hectares. A development perspective instead treats partnership as an institution for assembling productive assets, capabilities, finance, markets, and governance around community ownership. The difference is substantive. Physical completion can be assessed shortly after planting, whereas institutional success can only be demonstrated through long-term net income, resilience, organizational capability, environmental compliance, and equitable distribution. This shift is especially relevant to Minamas' recent initiatives. The Desa Kapuk development indicates a stated commitment to establish a long-term productive asset, while the Aceh Tamiang initiative explicitly involves government, multiple villages, and a cooperative. These are favorable

structural ingredients, but they are not sufficient evidence of impact. The next analytical step should therefore be the creation of a baseline against which outcomes can be tracked over the entire plantation cycle.

4.8.2 The Economic Pathway: From FFB to Shared Prosperity

A narrow partnership model focuses on gross plantation revenue. The IPPF instead begins with net household value. Gross FFB production must be adjusted for harvesting, transport, fertilizer, maintenance, management, debt service, cooperative expenses, reserves, and other deductions before household benefit is evaluated. Transparent accounting is particularly important during debt repayment, because farmers may otherwise perceive high production while receiving relatively small distributions without understanding the underlying cash flow. The second stage is household asset transformation. Evidence from Indonesian smallholders suggests that oil palm income can finance education, nutrition, housing, electricity, savings, and off-farm activities (Mehraban et al., 2021; Chrisendo, Siregar & Qaim, 2022). The partnership should therefore measure whether participating households accumulate human and productive assets rather than merely increase consumption.

The third stage is economic diversification. Oil palm should provide a platform for, rather than a substitute for, broader livelihood resilience. Off-farm income has been identified as one mechanism through which oil palm households can smooth consumption during commodity-price fluctuations. Contract arrangements may likewise affect how labor is allocated between farm and non-farm activities (Ruml, Ragasa & Qaim, 2022). Programs that support local services, food production, livestock, transport, repair businesses, digital services, and women-led enterprises can therefore increase the resilience of partnership households. Recent evidence from West Kalimantan suggests that diversified oil palm agroforestry can provide livelihood and food-security flexibility even when income effects are mixed, reinforcing the value of context-specific diversification rather than a one-size-fits-all strategy (Beaudet et al., 2026). The fourth stage is the community multiplier. If households spend income locally and the partnership sources labor, transport, inputs, food, maintenance, and services from nearby firms, economic activity can extend beyond registered plantation beneficiaries. However, Krishna & Kubitz (2021) caution that private benefits do not necessarily become community goods. Coordination with local government is therefore necessary to connect expanding private income to improvements in roads, education, health, water, and other public services.

4.8.3 Governance as the Main Mediator

The literature suggests that governance is the most important mediator between partnership resources and development outcomes. Land, capital, and technical assistance are valuable, but they do not determine how benefits are distributed. Contracts, cooperative rules, accounting systems, information rights, and grievance mechanisms do. A practical implication is that partnership documents should be written in accessible language and explained through deliberative meetings before signing. Farmers should receive periodic statements showing production, sales prices, expenses, debt balances, reserves, and distributions. Cooperative leaders should not be the only individuals able to access financial information. Independent audits and member education can reduce information asymmetry. Trust should be treated as a measurable asset. Baka, Rianse & Zulfikar (2024) show that openness and consistency influence the durability of plantation partnerships, while social-capital literature demonstrates that trust and bridging networks influence participation and technology adoption (Saptutyningih, Diswandi & Jaung, 2020; Cordaro & Desdoigts, 2021). A partnership dashboard could therefore include perceived fairness, satisfaction with information, confidence in cooperative leadership, grievance resolution, and member participation alongside conventional yield and financial indicators.



Figure 3. Multi-Stakeholder Governance Ecosystem for a Sustainable Minamas Community Plantation Partnership.

Figure 3 illustrates why bilateral company–farmer contracting is insufficient for long-term sustainability. Government is needed for land legality, public infrastructure, extension coordination, and oversight; banks and public funds are needed for long-tenor finance and replanting; research organizations can support planting material and agronomy; certification institutions influence market access; and independent oversight can strengthen accountability. The partnership should therefore be designed as a governed ecosystem rather than a single contractual relationship.

4.8.4 Certification, Traceability, and the New Market Boundary

Smallholders increasingly operate within supply chains where sustainability documentation can determine market access. The literature reveals a major risk: farmers already connected to companies or historical schemes may be better positioned to comply, while independent farmers face structural barriers. Ekaputri et al. (2025) provide strong evidence of uneven participation between contract and independent smallholders in certified mill markets. This creates a potential dual economy in which organized farmers gain access to compliant supply chains and unorganized farmers become increasingly marginalized. Minamas can potentially turn this risk into a development opportunity by using FPKMS as a compliance-incubation platform. Farmers can enter production with legal documentation, geolocation, record keeping, no-deforestation safeguards, internal controls, and training already built into the system. Wibowo et al. (2023), Pramudya et al. (2022), Irawan et al. (2024), and Reich & Musshoff (2025) indicate that institutional facilitation, training, incentives, and scale can significantly reduce barriers and certification costs. The more ambitious strategy would be to extend these capabilities beyond formal partnership members. Training hubs, cooperative services, seed access, digital mapping, and certification support could eventually serve independent smallholders around the estate. This would move the company from managing a compliant enclave to strengthening a compliant landscape.

4.8.5 Environmental Safeguards as a Condition of Shared Prosperity

Shared prosperity cannot be sustained if economic gains depend on future environmental liabilities. The oil palm literature consistently identifies the need to reconcile livelihood improvement with forest conservation and biodiversity. Li (2024) argues that supporting productivity and livelihoods on existing smallholder land is preferable to further deforestation, while Dalheimer et al. (2024) demonstrate that improvements in environmental performance need not necessarily require sacrificing output. This supports an intensify, protect, and diversify approach. First, community plantations should pursue efficient production on legally established, appropriate land. Second, forest, riparian, peat, biodiversity, and fire safeguards should be integrated into management. Third, household livelihoods should be diversified so economic security is not dependent on continuous expansion of planted area. This approach aligns community welfare with the long-term market legitimacy of Indonesian palm oil.

4.8.6 Interpreting the Minamas Case

The Minamas initiatives can be interpreted as possessing several potentially favorable design elements: corporate agronomic capability, access to plantation infrastructure and mills, experience with smallholder schemes, the ability to coordinate quality planting material, and the involvement of cooperatives and local governments. The Desa Kapuk and Aceh Tamiang programs also frame plantations as community productive assets rather than short-term social assistance. These features are consistent with the literature's emphasis on resource-providing partnerships, collective organization, and market coordination. However, critical questions remain unanswered in publicly available information. What are the precise ownership arrangements? How are development costs financed? What portion of revenue will service debt or management costs? How are FFB prices calculated? What audit rights do cooperative members possess? What happens when palms require replanting? How are beneficiaries selected? How are women, land-poor households, and non-participating villagers affected? What indicators will be used to demonstrate local economic spillovers? How will environmental compliance and traceability be maintained after management responsibilities change? These questions should not be interpreted as criticism of the initiatives themselves; they are the logical questions required to transform a promising partnership model into an empirically demonstrable development model. A transparent monitoring framework would enable Minamas to provide stronger evidence over time and could create a replicable benchmark for other plantation companies.

4.8.7 The Inclusive Partnership-to-Prosperity Framework

The first layer of the IPPF is partnership resources: legally secure land, financing, quality planting material, infrastructure, agronomic expertise, market access, and digital information. These resources define the productive opportunity available to the community. The second layer is governance mediators: contract fairness, cooperative quality, transparent accounting, farmer participation, trust, grievance mechanisms, and government oversight. These determine how resources are controlled and distributed. The third layer is operational mechanisms: adoption of good agricultural practices, productivity, cost efficiency, FFB quality, market access, certification, risk sharing, and replanting preparation. The fourth layer is household outcomes: net income, consumption stability, education, nutrition, asset accumulation, employment, savings, income diversification, and resilience. The fifth layer is community outcomes: local jobs, procurement, enterprise growth, cooperative capital, social inclusion, strengthened institutions, public-private coordination, and local economic multipliers. Environmental integrity and social equity surround all five layers as boundary conditions. External shocks—including commodity prices, climate events, disease, policy changes, and market regulation—interact with each layer. The framework therefore avoids a simplistic linear assumption and instead treats partnership as a socio-economic system whose components must remain aligned over time.

4.8.8 A Partnership Performance Dashboard

For empirical evaluation, the framework should be translated into a dashboard. Economic indicators should include net household partnership income, debt-service ratios, household asset growth, savings, non-palm income, employment, and local procurement. Farm indicators should include FFB yield, production cost per tonne, fertilizer efficiency, palm mortality, GAP adoption, and replanting reserves. Institutional indicators should include audited cooperative statements, meeting participation, member access to contracts and accounts, grievance-resolution time, election regularity, and perceived trust. Social indicators should include

benefit distribution by gender and wealth group, employment quality, occupational safety, youth participation, and effects on non-participating households. Environmental indicators should cover legality, geolocation, certification readiness, no-deforestation compliance, riparian protection, fire incidence, chemical management, and biodiversity safeguards. Resilience indicators should include savings, insurance, income diversity, capacity to withstand FFB price declines, and readiness for replanting.



Figure 4. Multidimensional Performance Dashboard for Evaluating Community Oil Palm Partnerships.

Figure 4 is methodological as well as managerial. If partnership performance is reported only as hectares planted, number of farmers, or gross production, serious problems may remain invisible. A multidimensional dashboard allows the company and community to identify whether agronomic success is accompanied by institutional weakness, whether strong cash flow masks excessive debt, or whether household gains coexist with limited participation by the wider community.

4.8.9 Suggested Indicators for Longitudinal Monitoring

To translate the multidimensional performance logic presented in Figure 4 into a practical longitudinal monitoring system, Table 1 organizes a minimum set of indicators across economic, farm, institutional, social, sustainability, resilience, and community dimensions. These indicators should be measured from a clearly documented baseline and revisited at regular intervals, because partnership quality evolves through interacting changes in farm performance, organizational capacity, household welfare, environmental compliance, and local spillovers rather than through a single end-point measure (Jelsma et al., 2024; Supriatna et al., 2024; Witjaksono et al., 2024).

Table 1. Suggested Indicators for Longitudinal Monitoring of Community Oil Palm Partnerships

Dimension	Core Indicators	Why It Matters
Economic	Net income; debt-service ratio; household assets; savings; local procurement	Tests whether gross plantation output becomes durable household and local value.
Farm	FFB yield; production cost; GAP adoption; palm mortality; fertilizer efficiency	Separates agronomic performance from financial performance.
Institutional	Audited accounts; meeting participation; grievance resolution; election regularity	Measures whether cooperative governance is transparent and accountable.
Social	Gendered participation; employment quality; safety; inclusion of vulnerable households	Identifies distributional effects hidden by averages.
Sustainability	Land legality; geolocation; certification;	Protects future market access and environmental

	no-deforestation; fire and riparian safeguards	legitimacy.
Resilience	Income diversity; insurance; savings; replanting reserve; shock-response capacity	Tests whether households and the cooperative can survive price, climate, and age-cycle shocks.
Community	Local jobs; suppliers; rural enterprises; cooperative capital; public-service coordination	Captures multiplier effects beyond registered partnership members.

The economic and farm dimensions should be interpreted jointly because higher FFB yields are meaningful only when they translate into sustainable net household value after production costs, debt service, and reinvestment requirements are considered. Longitudinal tracking of net income, household assets, savings, yield, input efficiency, and palm mortality can reveal whether technical improvements are building durable welfare or merely raising gross output; this distinction is consistent with evidence that smallholder welfare effects depend on both productivity and the structure of costs and risks (Mehraban et al., 2021; Chrisendo, Siregar & Qaim, 2022). Recent multi-region evidence also shows that fertilizer use is constrained by intertwined agronomic and socioeconomic factors, indicating that productivity indicators should be read alongside farmers’ capacity to afford and correctly apply inputs (de Vos et al., 2026).

Institutional, social, and sustainability indicators provide an equally important diagnostic layer. Audited accounts, member participation, grievance resolution, election regularity, gender inclusion, land legality, traceability, and no-deforestation safeguards help determine whether the partnership remains transparent, legitimate, and capable of maintaining market access over time; long-running Indonesian experience shows that collective action is resilient only when financial management and organizational arrangements remain credible (Jelsma et al., 2024; Baka, Rianse & Zulfikar, 2024). Certification research further suggests that organized support, legal documentation, training, and economies of scale can reduce barriers for smallholders, so longitudinal monitoring should capture not only certification status but also the institutional capacities that make compliance durable (Irawan et al., 2024; Reich & Musshoff, 2025).

Finally, resilience and community indicators extend the evaluation beyond the current production cycle and beyond registered participant households. Income diversification, insurance, savings, replanting reserves, shock-response capacity, local employment, rural enterprises, and cooperative capital show whether benefits can persist through price fluctuations, climate shocks, and the costly transition to the next generation of palms (Siregar et al., 2024; Hendrawan & Musshoff, 2024). Diversified livelihood strategies can also provide flexibility and food-security buffers in smallholder landscapes, while evidence on rural oil palm expansion cautions that private household gains do not automatically become community-wide goods; consequently, the partnership should explicitly monitor both household resilience and local multiplier effects (Krishna and Kubitza, 2021; Beaudet et al., 2026).

4.8.10 Policy Implications

Government remains indispensable even in company-led partnership. Land certification, plantation registration, roads, extension, cooperative supervision, dispute resolution, and access to public replanting programs require state capacity. Certification studies repeatedly show that smallholders struggle when government procedures are complex and support is fragmented (Pramudya et al., 2022; Wibowo et al., 2023). Public policy should therefore reward partnerships that demonstrate transparent contracts, measurable farmer ownership, sustainability compliance, and credible long-term financing. Financial institutions should also adapt products to plantation biology. Conventional collateral requirements and short repayment periods are poorly matched to oil palm establishment and replanting. Blended finance combining commercial lending, public funds, company guarantees, cooperative reserves, and risk-sharing instruments could lower financing barriers. Land documentation remains critical because secure tenure increases access to formal finance and influences willingness to replant (Siregar et al., 2024; Maryadi, Sulastri & Antoni, 2026). Finally, replication should be conditional. A model effective in Central Kalimantan may not be appropriate in Aceh Tamiang or other regions because land tenure, village institutions, labor markets, soil, infrastructure, and community histories differ. Reiss-Woolever et al. (2025) and Anas et al. (2025) reinforce the need to recognize smallholder heterogeneity. Scaling should therefore replicate principles – transparency, participation, quality inputs, financial sustainability, market access, resilience, and environmental safeguards – rather than mechanically reproduce identical contracts.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Company-community oil palm partnerships can become important institutions for inclusive rural development because they are capable of combining assets that isolated smallholders often cannot assemble independently: land development, long-term capital, quality planting material, agronomic knowledge, processing and logistics, market access, and sustainability infrastructure. Yet partnership benefits are conditional. Neither a plasma label, cooperative registration, certification, nor the physical establishment of a plantation is sufficient evidence of shared prosperity.

The emerging PT Minamas Plantation initiatives in Desa Kapuk and Aceh Tamiang are therefore best understood as development platforms whose long-term outcomes remain to be demonstrated. Their significance lies in the possibility of creating community-owned productive assets supported by corporate capability and cooperative institutions. Their eventual success should be evaluated through household net income, debt sustainability, productivity, asset accumulation, livelihood diversification, organizational capability, participation, environmental integrity, resilience, and measurable spillovers to the surrounding village economy.

The proposed Inclusive Partnership-to-Prosperity Framework recommends that Minamas institutionalize transparent and accessible contracts; disclose plantation cash flows and debt; strengthen cooperative governance; establish independent audits and grievance mechanisms; integrate high-quality planting material and continuous technical extension; support land legality, certification, and traceability from the beginning; create explicit replanting reserves; facilitate diversified household income; and measure gendered and distributional outcomes. Local governments should complement these measures through land administration, infrastructure, cooperative supervision, extension, and public-service investment, while financial institutions should provide long-tenor financing aligned with the biological cycle of oil palm.

The most important conceptual shift is to redefine success. The relevant question is not how many hectares of community oil palm a company develops, but whether those hectares become durable, transparent, environmentally legitimate, and equitably governed economic assets. A partnership should ultimately enable surrounding communities to move from being beneficiaries of corporate presence to becoming capable economic partners with assets, institutions, bargaining capacity, diversified livelihoods, and resilience across multiple generations. If that transition can be demonstrated with transparent longitudinal evidence, the Minamas model could provide lessons for a broader reorientation of plantation-community relations in Indonesia.

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