

Land Redistribution and the Paradox of Rural Pluriactivity: The Case of Dukuh Kaung Hamlet in Bogor Regency, Indonesia

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ABSTRACT

While land redistribution is widely recognized as a catalyst for rural economic improvement, the mere transfer of property rights frequently culminates in risk-averse survival strategies rather than sustained economic expansion. To unpack this agrarian paradox, this study anchors its analysis in Sajogyo's "Eight Paths of Equity Plus" framework to examine the dynamic relationship between land control, employment, and business opportunities in Dukuh Kaung, Bogor Regency—a frontline of agrarian reform in Indonesia. Utilizing an exploratory sequential mixed-method design, qualitative insights were integrated with a census of 48 households controlling ex-HGU land in Pasir Kolecer Block. Spearman's rank correlation revealed a statistically significant, moderate positive relationship between the size of land controlled and both productive employment ($p = 0.022$; $r = 0.330$) and entrepreneurial ventures ($p = 0.041$; $r = 0.263$). Although de facto redistribution successfully democratized land access and eradicated absolute landlessness for 70.8% of previously landless households, the structural transition towards rural equity remains severely stunted. The high prevalence of extremely rural pluriactivity—with 37.5% of households engaging in four or more simultaneous jobs—indicates a necessity-driven survival strategy to compensate for insufficient agricultural returns, exacerbated by emerging resource concentration via distress land sales. The study concludes that while land access provides the necessary foundational asset, it is fundamentally insufficient without a comprehensive "Agrarian Reform Plus" architecture—encompassing formal credit, training, market integration, and infrastructural support—to elevate rural livelihoods from precarious survival to sustainable commercial growth.

Keywords: agrarian reform, land redistribution, livelihood strategies, rural pluriactivity, Sajogyo, socio-economic equity

INTRODUCTION

Land remains the primordial agrarian resource, serving as the essential catalyst for economic diversification and the structural improvement of community welfare, particularly within the fragile ecosystems of developing agrarian economies (Kousar et al., 2018; To-The et al., 2024; Wahyono et al., 2023). In the contemporary global landscape, where land is increasingly commodified, its role as the primary asset in agricultural production systems transcends mere technical utility. It functions as a complex repository of social, cultural, and political value, anchoring rural identities and power dynamics (le Polain de Waroux et al., 2021). Consequently, the degree of access to and control over land is not merely a variable of production; it is the fundamental determinant of a household's economic sustainability and its resilience against the encroaching volatilities of the market (Chipenda & Adesina, 2025; To-The et al., 2024).

However, the mere transfer of land rights frequently fails to dismantle the structural backwardness of rural economies. In fact, land distribution does often culminate in complex, risk-averse survival strategies rather than catalysing robust economic expansion. This agrarian paradox sits at the critical forefront of contemporary rural development discourse.

To unpack this paradox, this study anchors its analysis in the seminal intellectual tradition of Sajogyo, who has long argued that land control is the essential prerequisite that determines whether a rural household can access broader economic horizons. He famously moved beyond legalistic definitions of land ownership, focusing instead on the functional reality of “who owns what and how much” as the principal yardstick for development process equity. In Sajogyo's framework, land control is the fundamental variable influencing a household's capacity to participate in “productive employment”—labour-intensive activities that form the foundational bedrock of rural poverty alleviation. He identified “business opportunities” and “employment opportunities” as the initial links in a “chain of cause and effect” that ultimately determines levels of household income, nutritional adequacy, and the holistic quality of life for the rural poor. For Sajogyo, land is the “determinant of these opportunities” because the pattern of resource control dictates the economic strategies a household can realistically adopt, whether they be survivalist or expansionist in nature (Sajogyo, 1985; Sajogyo & Wiradi, 1983).

The theoretical significance of land control is best articulated through Sajogyo's framework of the “Eight Paths of Equity Plus” (*Delapan Jalur Pemerataan Plus*). The Eight Paths of Equity were originally conceptualised by the Suharto administration to operationalise “social equity”—the critical third pillar of Indonesia's New Order National Development Trilogy, alongside “economic growth” and “political stability”. Within this model, employment and business opportunities are positioned as the primary catalysts that trigger a causal chain leading to broader social welfare. However, Sajogyo's most significant contribution was the expansion of this model into the “Eight Paths Plus.” He unequivocally asserted that in a rural context, the first two paths of employment and business cannot be effectively realised without a decisive “plus” factor: the pattern of control over productive resources, specifically land. For Sajogyo, land control is the structural factor that enables a rural household to transition from subsistence-based survival toward generating an agricultural surplus. Without addressing the fundamental inequality of land distribution, the subsequent paths of equity—including access to food, housing, education, and health—remain structurally out of reach for the rural poor (Sajogyo, 1985, 1990). From a structural perspective, land tenure operates as the pillar of the rural agrarian structure, underpinning the stability of the socio-economic system. Inequitable land distribution can induce dysfunctions within the livelihood system, whereby rural households with limited access to resources are forced into survival rather than expansion-oriented strategies (White, 1991), often resulting in “fragmented” or “sporadic” land sales (Hartvigsen, 2014; Musyoka et al., 2021).

Situating Sajogyo's framework in dialogue with contemporary agrarian studies reveals a critical tension between *necessity* and *sufficiency*. Recent scholarships corroborate these theoretical foundations while adding layers of modern complexity. For instance, a study by Zhao et al. (2024) demonstrates that land redistribution significantly reduces poverty by providing a secure asset base that allows rural households to orient themselves toward more stable non-agricultural empowerment. This finding reinforces the notion that land redistribution not only enhances economic access but also mitigates long-term vulnerability. However, it is increasingly evident that land access alone is insufficient to trigger a holistic structural transformation. The redistribution of land effectively eradicates landlessness—fulfilling Sajogyo's essential “plus” factor—but without the subsequent integration of an “Agrarian Reform Plus”

support architecture (such as credit, markets, and infrastructure), the intended economic trajectory stagnates.

This study, therefore, adopts the “Eight Paths” not just as a monitoring tool, but as a diagnostic framework to assess whether land redistribution is fulfilling its promise of fostering genuine rural equity. Specifically, this study examines the intricate relationship between varying levels of land control and the resultant creation of employment and business opportunities in Dukuh Kaung, Nanggung Village, Bogor Regency. This case serves as a critical frontline in the peasant struggle for agrarian reform in Indonesia. Since 1984, PT Hevea Indonesia (Hevindo) controlled 244.89 hectares under a Right to Cultivate (*Hak Guna Usaha*, HGU) scheme, yet nearly 75% of this land was left idle from 1990 onwards. This abandonment prompted local communities to begin informal cultivation since 1997, evolving into a prolonged agrarian conflict (Maulana & Shohibuddin, 2022, 2024). Following the HGU expiration in 2013, the land was designated as former HGU land and became the focal point for agrarian reform efforts. By 2024, through the persistent advocacy of the AMANAT peasant organisation and various NGOs, the land was formally recommended by the Head of Bogor Regency as an object of agrarian reform programme (*Tanah Objek Reforma Agraria*, TORA).

The Pasir Kolecer Block represents one of the epicentres of this peasant movement, with 95% of its landholders residing in Dukuh Kaung. In this specific block, diverse agricultural activities have flourished, including horticulture, livestock farming, and agricultural product processing. Initial indications suggest that land control in this block contributes to employment and business opportunities for the residents of Dukuh Kaung, which in turn supports the improvement of community welfare and making them the centre of agrarian reform movements. By exploring these dynamics, the research seeks to understand how shifts in land tenure facilitate or constrain the movement of farmer households across on-farm, off-farm, and non-farm sectors.

In analysing the outcomes of land redistribution, Sajogyo’s socio-economic classification offers a vital tool for categorising farmer households. He famously categorised rural households into three tiers: “wealthy farmers” with economic expansion strategies, “medium-scale farmers” who focus on strategies of consolidation, and “smallholder farmers and farm labourers” who rely on survival strategies through off-farm and non-farm work (Sajogyo, 1985). For the residents of Dukuh Kaung, these categories are not static. The redistribution of land is expected to shift farming households from the “survival” category into more “consolidative” or “expansive” roles by providing the necessary asset base to diversify their livelihoods. As Sajogyo observed from national agricultural census, households with the most limited land are often the most diversified by necessity, engaging in multiple low-imbalance jobs just to survive. Conversely, those with sufficient land can leverage their agricultural surplus to invest in higher-value business ventures (Sajogyo, 1985; Sajogyo & Wiradi, 1983).

The specific gap this study seeks to address lies in the lack of empirical elaboration on how the level of land tenure—the exact size and security of control—contributes to specific types of opportunities at the household level. Previous studies on land control have primarily focused on the relationship between land ownership and farmers’ welfare. However, these studies have not explicitly elaborated on how the level of land tenure contributes to employment and business opportunities at the household level. The high level of land control in Pasir Kolecer Block allows for land optimisation but also creates new dynamics within the local labour structure. Although theory suggests that extensive land control can expand employment opportunities, in reality, many available jobs remain subsistence-based and rely heavily on social networks. Furthermore, while land control fosters entrepreneurial opportunities through collective initiatives like KWT Pasir Kolecer, the sustainability of these businesses faces challenges related to market access, capital, and product competitiveness.

Therefore, this study offers a more in-depth perspective by analysing the relationship between land control, household employment, and business opportunities in Dukuh Kaung, Nanggung. The uniqueness of this research lies in its exploration of farmers’ livelihood strategies based on land control levels within the context of an ongoing agrarian reform process. This approach allows for a deeper understanding of the linkages between land control, employment opportunities, and business opportunities across various work sectors in rural setting. The study critically explores whether land redistribution merely provides a “consumption fund” for survival or if it creates genuine “agricultural surplus” that can be reinvested into off-farm processing or rural non-farm economic activities.

Finally, this study is guided by the objective of analysing the statistical and qualitative relationship between land control levels and the breadth of household livelihood opportunities. This leads to several core research questions: How does the size of land controlled in Pasir Kolecer Block correlate with the

number of productive jobs held by a household? To what extent does increased land access foster new business ventures in the on-farm, off-farm, and non-farm sectors? And finally, what structural constraints—such as capital or market access—continue to hinder the transition from “survival” to “expansion” strategies despite land redistribution? By addressing these questions, the study aims to provide a comprehensive understanding of the role of land as a catalyst for rural economic improvement. The findings of this research are expected to serve two primary purposes. Locally, they provide an evaluation of the land redistribution process in Dukuh Kaung. Nationally, the study provides a contemporary test of Sajogyo’s theories, advocating for “agrarian justice” through policy recommendations that go beyond simple land titling. Following Sajogyo’s work, this study asserts that every sector of development must be responsible not only for growth but for “equity, solidarity, and independence.” Thus, the study calls for a holistic approach to agrarian reform that combines land redistribution with support services, ensuring that the “paths of equity” are paved for the most vulnerable members of rural society.

METHODS

This study adopts an empirically grounded and critically oriented paradigm, rooted in an ontological stance of objective reality observable through the quantitative measurement of land and livelihood variables, while acknowledging the subjective socio-political nuances of agrarian struggle. Epistemologically, the researcher functions as an independent observer using an exploratory sequential mixed-method approach, integrating qualitative depth with quantitative rigour to capture the complexities of rural livelihoods (Creswell, 2017; Sugiyono, 2013). The axiology of this research is explicitly grounded in the pursuit of agrarian justice, aiming to produce transformative policy recommendations that reduce land access inequality and enhance the economic resilience of rural households.

The research was conducted from February to December 2024 in Dukuh Kaung, Nanggung Village, Bogor Regency. This site was purposively selected due to its concentration of landholders in the Pasir Kolecer Block, its history of land struggles, and the ongoing redistribution of former HGU land. The investigation was executed in two distinct, interconnected phases: a qualitative phase involving observations and in-depth interviews to establish operational definitions and inform instrument development. Four key informants were selected via purposive and snowball sampling to represent diverse vantage points: JJT (AMANAT’s village coordinator) on agrarian history; SWD (community leader) on local power structures; JLI (tenant farmer) on practical farming challenges; and MRN (member of the Women’s Farmer Group) on the gendered dimensions of land redistribution. These qualitative insights were essential for grounding the study in the “lived reality” of the residents, ensuring the questionnaire accurately reflected local socio-economic categories.

The subsequent quantitative phase involved a census of 48 farming households from Dukung Kaung who control former HGU land in the Pasir Kolecer Block. This census approach, rather than a sample, was chosen to provide a comprehensive socio-economic classification and to eliminate sampling bias within this specific, highly-active population. Primary data were synthesised with secondary data from the “Dospulkam IPB 2024” programme (Shohibuddin et al., 2025), which provided baseline surveys on vegetation and social conditions. Quantitative analysis was facilitated by SPSS and Microsoft Excel, utilising Spearman’s rank correlation to assess the relationship between land control and livelihood opportunities across the on-farm, off-farm, and non-farm sectors. Significance was rigorously determined at a threshold of $p < 0.05$. Correlation strengths were categorised according to standard intervals: weak (0.00–0.25), moderate (0.26–0.50), strong (0.51–0.75), very strong (0.76–0.99), and perfect (1.00). Qualitative insights underwent systematic data reduction and triangulation to capture the multifaceted complexities of land tenure and livelihoods. Although the findings are context-specific to this specific census, they possess analytical transferability to comparable agrarian reform settings where land tenure remains the primary determinant of rural economic resilience and the gateway to Sajogyo’s “Paths of Equity +”.

RESULTS AND DISCUSSION

The Historical Context of Agrarian Conflict in the Pasir Kolecer Block

The agrarian conflict in the Pasir Kolecer Block originated from the systematic abandonment of a substantial estate concession held by PT Hevindo under a HGU permit. Since the early 1990s, over 75%

of this land remained uncultivated, creating a vacuum in the local “opportunity structure.” This neglect prompted local communities—whose livelihoods were historically tethered to the area—to initiate informal cultivation for seasonal crops (Assiyah & Shohibuddin, 2025). Within the sociological framework of Sajogyo, this informal cultivation was not merely a survival strategy; it was an attempt by the smallholder and landless households to reclaim control over productive resources that had been alienated by plantation interests. The historical absence of formal land access exacerbated socio-economic disparities, effectively blocking the first two critical paths of equity: employment and business opportunities.



Figure 1. Ex-HGU Land in Pasir Kolecer Block, Nanggung, Bogor Regency

Tensions reached a critical threshold between 2010 and 2013 when PT Hevindo and the National Land Agency (*Badan Pertanahan Nasional*, BPN) conducted unilateral land surveys for the extension of HGU permit without community consultation. The subsequent installation of boundary markers in 2011 and a contested 2013 land conversion from rubber plantations into oil palm intensified local grievances, as these corporate actions constituted a direct threat to the diverse livelihood strategies the community had painstakingly established over time. In response, a resurgence in the peasant movement was manifested through the political consolidation of the AMANAT (Aliansi Masyarakat Nanggung Transformatif) peasant organisation, supported by civil society groups such as RMI, JKPP, KPA, Sawit Watch and the Sajogyo Institute. These groups advocated for the return of the land to the state and its eventual redistribution to the people, framing the struggle not just as a legal dispute, but as a mandatory prerequisite for rural “rehabilitation” and developmental equity (Zimkhitha, 2024).

The expiration of PT Hevindo’s HGU in December 2013 marked a significant juncture in the local agrarian structure, although the legal status of the land remained in a state of “tenurial limbo” for several subsequent years. It was only in 2019, through the systematic political pressure applied by the AMANAT movement and its supporters, that the BPN commenced the Inventory of Land Tenure, Ownership, Use, and Utilisation (IP4T). This bureaucratic process served as the critical first stage in the implementation of land redistribution for the former HGU land already under peasant cultivation. By late 2024, significant progress was achieved, evidenced by the acting Regent of Bogor’s formal recommendation on 5 November 2024 to the Ministry of Agrarian and Spatial Planning Affairs (*Kementerian Agraria dan Tata Ruang*) to designate the area as objects for agrarian reform (TORA). However, until the end of 2025 the formal redistribution process remains a work in progress, and many households still lack legal land titles, highlighting the ongoing challenge of transitioning from informal possession to secure, legally recognised tenure.

Level of Household Land Control: Establishing the “Necessity” Baseline

The *de facto* redistribution of ex-HGU land in the Pasir Kolecer Block has fundamentally altered the agrarian structure for local farming households, providing the crucial “plus” factor mandated by Sajogyo’s framework. Figure 2 illustrates the comparative land area controlled by 48 surveyed households before and after gaining access to these redistributed plots. The data reveals a transformative

shift. Prior to this intervention, a significant majority of households possessed negligible landholdings, with many appearing to have had no prior access to agricultural land. The subsequent expansion in land size in Pasir Kolecer Block represents a critical enhancement of household-level agrarian resources, directly bolstering their potential for both subsistence and commercial agricultural production.

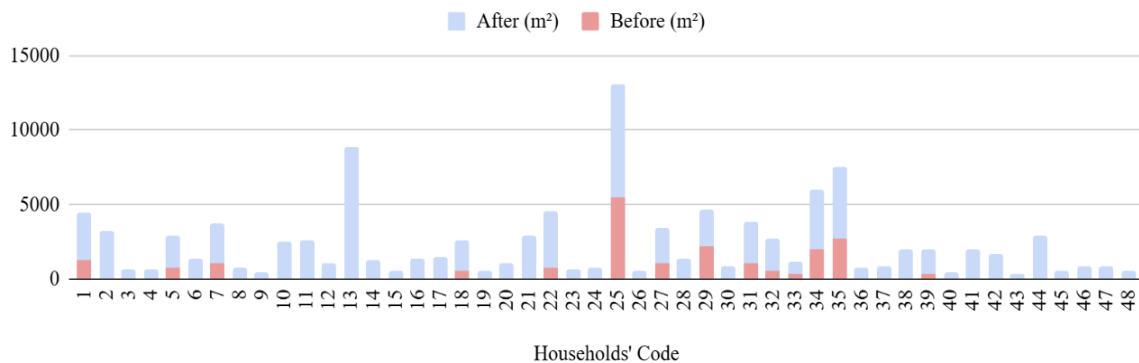


Figure 2. Comparison of Land Area under the Household Control Before and After Access to Ex-HGU Land in the Pasir Kolecer Block

Since securing access to the Pasir Kolecer Block, land ownership patterns among local households have undergone a profound transition. Significantly, 70.8% of households who were previously landless—specifically those without holdings at all outside the block—now control productive land. This underscores the block’s pivotal role in democratising land access for landless families, fulfilling the “necessity” requirement of agrarian reform by enabling marginalised families to engage in income-generating activities and actively reducing longstanding tenure inequality.

To meticulously assess the nuances of this land control, Table 1 categorises the 48 respondent households into low, medium, and high land-control tiers based on 2024 census data.

Table 1. The number and percentage of respondent households based on land area in the Pasir Kolecer Block in 2024

Land Area (m ²)	Number (n)	Percentage (%)
Low ($x < 822.39 \text{ m}^2$)	18	37.5%
Medium ($822.39 \text{ m}^2 \leq x \leq 2,161.85 \text{ m}^2$)	23	47.9%
High ($x > 2,161.85 \text{ m}^2$)	7	14.6%
Total	48	100.0%

The data in Table 1 indicates that the largest cohort, comprising 47.9% of respondents, falls within the medium category, controlling between 822.39 m² and 2,161.85 m². This suggests that nearly half of the community has achieved a moderate level of land security. Conversely, 37.5% of households remain in the low category (less than 822.39 m²), a structural limitation that actively constrains their long-term agricultural viability and forces a reliance on off-farm survival strategies. Only a minority of 14.6% control areas exceeding 2,161.85 m². Notably, there are no longer any landless respondents within the Pasir Kolecer Block, signifying that the redistribution program has successfully reached all target households, albeit in varying degrees of scale.

However, the “sufficiency” deficit of the reform becomes apparent when examining the internal disparities in land control, which are heavily influenced by local socio-economic vulnerabilities. For instance, the household of SWD (a 41-year-old male and Head of the Pasir Kolecer Block) represents the highest level of control, with a total of 8,850 m² consolidated from six separate plots. This concentration occurred as some original, capital-poor beneficiaries were structurally compelled to sell their land due to immediate economic pressures—a phenomenon known as distress land sales (Li, 2010). To preserve the integrity of the redistribution program, the AMANAT organisation strictly prohibits sales to non-members, ensuring that land remains within the community. However, this internal market has allowed some households to accumulate larger holdings while vulnerable households are left managing as little as 200 m².

The resulting land control structure is further elucidated in Figure 3, which contrasts the proportion of households against the total land area of 71,621.7 m².

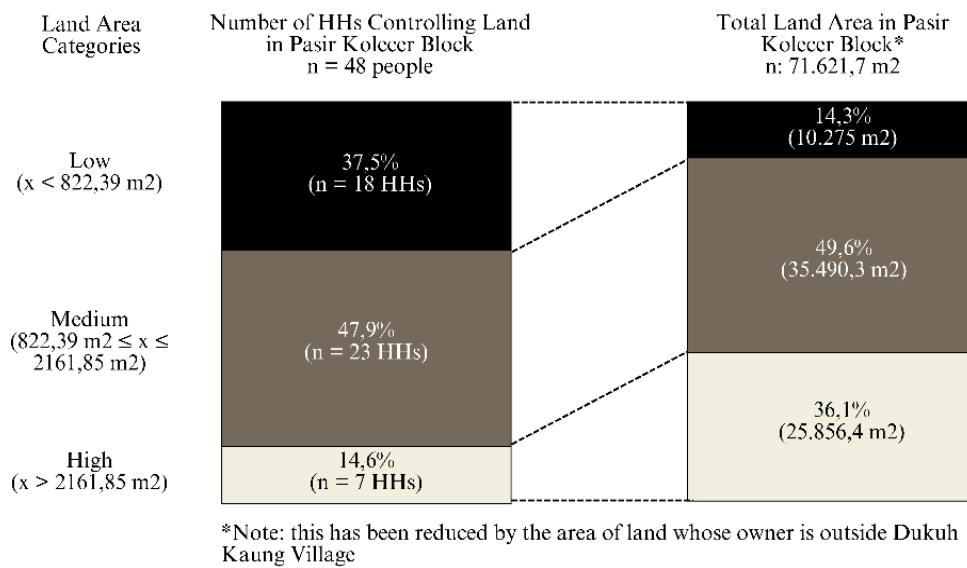


Figure 3. Ex-HGU land control structure in the Pasir Kolecer Block

The structural analysis reveals a clear concentration of resources. Figure 3 shows that the wealthy minority with high land control (14,6% of total respondents) commands a disproportionate 36,1% of the total land. Meanwhile, the medium group maintains a relatively proportional share, with 47,9% of households controlling 49,6% of the land. In stark contrast, the highly vulnerable low group, which accounts for over a third of the population (37,5%), is restricted to managing only 14,3% of the available agrarian assets. In summary, while the redistribution of ex-HGU land has successfully eradicated landlessness in the Pasir Kolecer Block and established a robust “middle class” of farmers, a discernible inequality remains. The concentration of over a third of the land in the hands of less than 15% of households highlights that without an “Agrarian Reform Plus” framework, the risk of rapid re-stratification remains a persistent threat to the community’s economic resilience.

Level of Employment Opportunities: The Paradox of Pluriactivity

Access to productive employment serves as a critical determinant of household economic resilience and the formulation of livelihood strategies. In Dukuh Kaung, the breadth and intensity of household engagement in the labour market reflect the “Agrarian Paradox”: the community’s high adaptive capacity is driven by the structural necessity to survive, rather than the luxury of true economic expansion (*cf.* Niemelä & Häkkinen, 2014). Table 2 presents the distribution of respondent households based on the number of productive jobs they engage in, categorised into low, medium, and high levels of involvement.

Table 2. The number and percentage of respondent households in Dukuh Kaung based on the number of productive jobs in 2024

Number of Productive Employment	Number (n)	Percentage (%)
Low ($X \leq 1$ employment)	25	52.1
Medium ($2 \leq X \leq 3$ employments)	5	10.4
High ($X \geq 4$ employments)	18	37.5
Total	48	100.0

The data indicates a deeply bifurcated employment landscape. A slight majority of households (52.1%) fall within the low category, relying on a single productive occupation or, in some cases, remaining unemployed. Conversely, a highly significant portion (37.5%) is situated in the extreme high category, engaging in four or more distinct jobs simultaneously. Only 10.4% maintain a stable medium level of employment (two to three jobs). In rural contexts, such high levels of job diversification (or pluriactivity)

often represent a “coping strategy” (Salmi, 2005) for a necessity-driven survival strategy rather than an indicator of robust economic expansion (Ellis, 1998; Sani, 2017). This precarious pattern of employment is inextricably linked to the insufficiency of their land tenure. As explicitly shown in Table 3, more than half of the respondents (52.1%) are classified as smallholder farmers and farm labourers, possessing less than 500 m² of land.

Table 3. The number and percentage of respondent households based on farmer classification referring to agricultural land area in Pasir Kolecer Block in 2024

Farmer Category	Number (n)	Percentage (%)
Smallholder farmers and farm labourers ($X \leq 500 \text{ m}^2$)	25	52.1%
Medium-scale farmers ($500 < X \leq 2,000 \text{ m}^2$)	13	27.1%
Wealthy farmers ($X > 2,000 \text{ m}^2$)	10	20.8%
Total	48	100.0%

Table 3 demonstrates that 52.08% of households are marginalised smallholders. A total of 27.08% are medium-scale farmers, while the remaining 20.83% are classified as wealthy farmers capable of genuine surplus generation. The sheer prevalence of land-poor households dictates a structural reliance on multiple, fragmented income streams to meet basic subsistence needs. While in urban setting a lower number of occupations might signal higher productivity and specialisation, in rural areas like Dukuh Kaung, the inverse is often true: job diversification is more reflective of a survival strategy. Households with restricted land assets are forced to proliferate their job types to compensate for insufficient agricultural returns, a phenomenon documented by Wiradi (2009) as a survival mechanism for the rural poor. The sectoral distribution of these jobs, presented in Table 4, reveals the severe limitations of this diversification.

Table 4. The number and percentage of respondents based on the number and sector of jobs in Dukuh Kaung in 2024

Number of Productive Employment	Employment Sector					
	On-farm		Off-farm		Non-farm	
	n	%	n	%	n	%
Low ($X \leq 1$ type of job)	25	52.1	48	100.0	47	97.9
Medium ($2 \leq X \leq 3$ types of jobs)	5	10.4	0	0.0	1	2.1
High ($X \geq 4$ types of jobs)	18	37.5	0	0.0	0	0.0
Total	48	100.0	48	100.0	48	100.0

This distribution confirms that the on-farm sector constitutes the predominant livelihood domain for all respondent households. Households with fewer jobs tend to work in the off-farm and non-farm sectors, while those with more jobs predominantly engage in the on-farm sector. This indicates that the more employments a household has in the on-farm sector, the less likely they are to seek employment in other sectors. Figure 4 illustrates the distribution of household employment across three main sectors: on-farm, off-farm, and non-farm. This diagram visualizes the distribution of job types and the proportion of households in each sector.

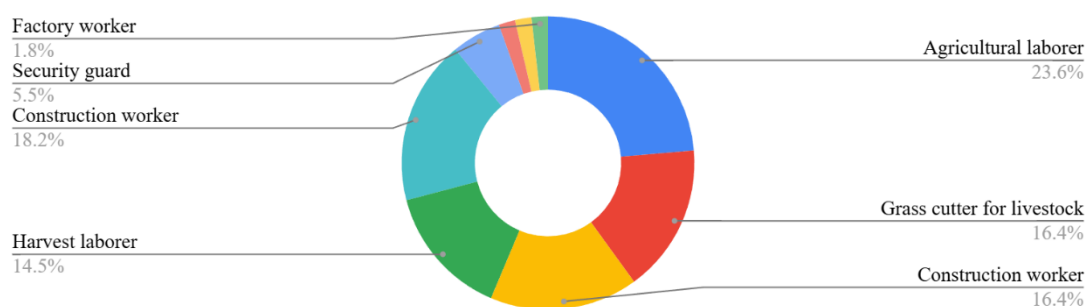


Figure 4. Number of respondent households based on the number of employments in each sector in Dukuh Kaung Village in 2024

This distribution indicates a precarious dependence on the on-farm sector, where the vast majority of households work as agricultural labourers, harvest workers, or manual grass cutter to meet their economic needs. The complete lack of contribution from off-farm wage employment highlights severe structural barriers in accessing agricultural processing jobs. Meanwhile, the non-farm sector serves merely as a secondary safety net for a small fraction, providing low-skilled, highly volatile roles such as construction labour (18.2%). This acute lack of high-value economic diversification forcefully reiterates the “sufficiency” argument: without external developmental interventions, rural populations remain trapped in under-developed employment structures.

Level of Business Opportunities: A Constrained Expansion

Complementing the fragile landscape of wage-based employment, the establishment of household-owned micro-businesses constitutes a critical strategy for shaping the local economy and bolstering community resilience. In Dukuh Kaung, the propensity for business ownership reflects not only a drive for economic diversification but also the structural necessity of supplementing agricultural income. Table 5 presents the number and percentage of respondent households based on the number of businesses they own, providing a clear indicator of business opportunities in Dukuh Kaung—the second equity path in Sajogyo’s framework. This data reflects the level of success and economic stability of households, categorized into low, medium, and high.

Table 5. Number and percentage of respondent households in Dukuh Kaung based on the number of businesses owned in 2024

Number of Businesses Owned	Number (n)	Percentage (%)
Low ($X < 2$)	4	8.5%
Medium ($2 \leq X \leq 4$)	34	72.3%
High ($X > 4$)	10	21.3%
Total	48	100.0%

The data reveals a robust level of survivalist entrepreneurial activity, with a significant majority of households (72.3%) falling into the medium business category, managing between two and four distinct micro-enterprises. Furthermore, 21.3% of households exhibit high entrepreneurial intensity, operating more than four micro-enterprises. Only a small minority of households (8.5%) operates fewer than two business, which may indicate structural constraints on enterprise initiation or expansion. This dense concentration in the medium-to-high tiers illustrates that households are desperately leveraging multiple micro-enterprises to stabilise their economic position, a strategy that requires significant management skills and adaptive capacity.

The sectoral distribution of these businesses, detailed in Table 6, further clarifies the constrained nature of this diversification.

Table 6. Number and Percentage of Respondents Based on the Number and Business Sectors in Dukuh Kaung in 2024

Number of Businesses	Businesses Sector					
	On-farm		Off-farm		Non-farm	
	n	%	n	%	n	%
Low ($X < 2$ types of businesses)	30	62.5	31	64.6	42	87.5
Medium ($2 \leq X \leq 4$ types of businesses)	18	37.5	17	35.4	6	12.5
High ($X > 4$ types of businesses)	0	0.0	0	0.0	0	0.0
Total	48	100.0	48	100.0	48	100.0

The analysis shows that while households are active across all sectors, their genuine expansion remains severely restricted. In the on-farm and off-farm sectors, 37.5% and 35.4% of households respectively, have managed to achieve a medium level of business diversification (2–4 types). In sharp contrast, the non-farm sector is notably less developed, with 87.5% of households operating only one type of business or entirely lack entrepreneurial presence in this sector. This suggests that while residents can navigate the immediate agricultural value chain, formidable structural barriers—such as persistent capital deficit, limited market access, and inadequate infrastructure—paralyse their ability to expand into broader non-agricultural services or industries (Morris et al., 2017). Therefore, any effort to transition these

communities from survival to expansion must involve “Agrarian Reform Plus” interventions, specifically focus on expanding access to capital, providing entrepreneurship and business management training, and strengthening supply chains and market access. These steps can increase the number of businesses in the medium category and support expansion to a higher level.

To understand the specific composition of these enterprises, Figure 5 illustrates the variety of business activities undertaken by the household, categorized into three business sectors: on-farm, off-farm, and non-farm.

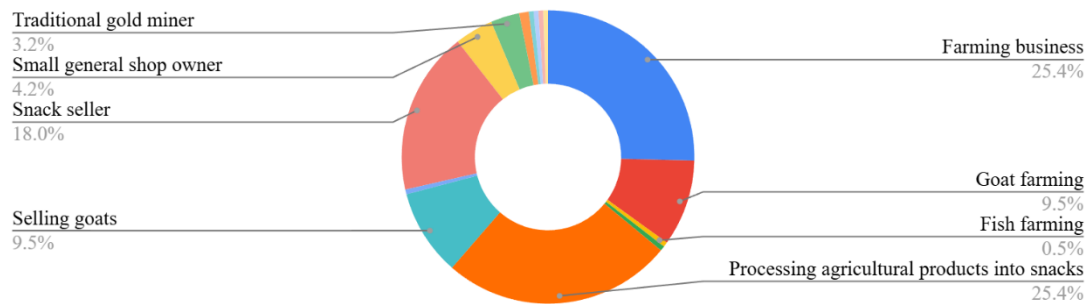


Figure 5. Number of respondent households based on the number of businesses in each sector in Dukuh Kaung Village in 2024

The entrepreneurial profile is characterised by a strong link to the primary sector, yet it highlights a critical attempt at value-addition: processing agricultural products into snacks (25.4%) and farming businesses (25.4%) represent the dominant economic engines. The prevalence of snack processing is a particularly vital indicator, signifying a successful transition into the off-farm sector through household-scale manufacturing. This is supplemented by retail activities like snack selling (18.0%) and small shop ownership (4.2%). Furthermore, livestock enterprises—such as goat farming (9.5%)—function as essential liquid assets, providing emergency capital in the absence of formal banking. Traditional gold mining (3.2%) persists only as a marginal non-farm activity.

This diverse distribution shows a sophisticated, yet ultimately defensive, adaptation strategy. By engaging in a wide array of activities—from primary cultivation to the processing and retailing of snacks—households in Dukuh Kaung are actively attempting to mitigate the severe risks inherent in a purely agrarian economy. This internal diversification serves as a buffer against the land limitations identified in previous sections. However, the reliance on low-capital, household-based micro-enterprises reveals the crux of the agrarian paradox: while these businesses prevent absolute destitution, they completely lack the scale and technological efficiency required for genuine capital accumulation. Hence, strengthening supply chains and enhancing access to formal credit and management training remain an absolute necessity for elevating these “medium” tier survival businesses into more sustainable, high-growth commercial enterprises.

Land Control as a Determinant of Livelihood Opportunities: The Necessity vs. Sufficiency Tension

The redistribution of former estate concession lands in the Pasir Kolecer Block represents a fundamental shift in the agrarian structure, acting as a critical, necessary catalyst for economic diversification and the improvement of community welfare. Central to this transformation is the empirical testing of the intricate relationship between levels of land control and the structural creation of employment and business opportunities among rural households in Dukuh Kaung.

The empirical foundation of this study rests on a census of 48 households, utilising Spearman’s rank correlation to navigate the non-parametric data of rural livelihoods. The results yield a statistically significant, moderate positive correlation between the size of land controlled and the number of productive jobs per household, with a significance value of $p = 0.022$ and a correlation coefficient of $r = 0.330$. Because the p -value falls strictly below the 0.05 threshold, the relationship provides empirical weight to Sajogyo’s assertion that as landholding size increases, the breadth of household employment expands. Parallel to this, a significant moderate positive correlation was identified between land size and business opportunities, resulting in a p -value of 0.041 and r -value of 0.263. While classified as

“moderate”, these correlations definitively confirm that land tenure functions as the primary, necessary repository of economic value, anchoring household resilience against market volatilities. These statistical findings align with contemporary scholarship, such as To-The et al. (2024), which demonstrates that secured land rights are essential catalysts for structural welfare improvements.

Following Sajogyo’s structural framework, the data confirms that land control is the essential prerequisite that determines whether a rural household can access broader economic horizons. He emphasised that in a rural context, the first two paths of developmental equity—employment and business opportunities—cannot be effectively realised without a decisive “plus” factor: the pattern of control over productive resources. In Pasir Kolecer, land control is indeed the structural determinant that enables households to transition away from absolute destitution. Prior to the *de facto* land redistribution, the vast majority lacked any agrarian assets. The subsequent expansion in land size successfully democratised access, empowering 70.8% of previously landless households—specifically those without holdings outside the block—to control productive land within the block. This reform underscores the block’s pivotal role in enabling landless families to engage in both subsistence farming and income-generating activities. Without addressing this fundamental inequality, the subsequent paths of equity—such as access to food, health, and education—would remain permanently out of reach for the rural poor.

However, the moderate nature of the correlation exposes the “sufficiency” deficit and the paradox of pluriactivity. The employment landscape reflects a bifurcated structure directly linked to the patterns of land tenure. A majority of households (52.1%) fall into the low employment category, relying on a single productive occupation. Conversely, 37.5% of households occupy the high category, engaging in four or more distinct jobs. In the rural context of Nanggung, such high levels of pluriactivity typically represent a necessity-driven survival strategy rather than an indicator of robust economic expansion. Smallholder households with limited land assets (the 52.1% managing less than 500 m² of land) are structurally compelled to proliferate their job types simply to compensate for insufficient agricultural returns. This phenomenon serves as a critical survival mechanism for the land-poor, who must balance multiple low-skilled roles to sustain their livelihoods.

Sectoral analysis further illuminates this constrained economic reality. The on-farm sector remains the primary anchor for all 48 respondent households. However, the data indicates that households with more extensive on-farm employment are structurally blocked from seeking employment in higher-value sectors. The non-farm sector serves as a vital alternative for only a small portion of households, primarily through low-skilled construction labour (18.2%), security work (5.5%), or factory work (1.8%). This lack of economic diversification into high-value sectors confirms that while land redistribution reduces immediate poverty vulnerability, the transition toward stable non-agricultural empowerment is severely hindered by the absence of structural support (Chen et al., 2022). Recent studies by Zhao et al. (2024) corroborate these findings, suggesting that while land redistribution reduces poverty vulnerability, the transition toward stable non-agricultural empowerment is often a slow process hindered by existing livelihood structures.

The landscape of household-owned micro-businesses mirrors this tension. While an impressive 72.3% of households managed between two and four micro-enterprises, this high concentration in the medium-to-high category suggests that households are actively leveraging multiple micro-ventures to stabilise their economic position. The transition into off-farm manufacturing through snack processing (25.4%) is a notable success. Yet, by engaging in diverse economic activities—from primary cultivation to the retailing of snacks—households remain entirely focused on mitigating the risks inherent in a purely agrarian economy rather than expanding capital.

Despite these successes, the moderate strength of the statistical correlation signals significant structural constraints that hinder the movement from survival to expansionist strategies. While land access has enabled diversification, capital and market constraints continue to limit enterprise development. The analysis shows that while households are adept at diversifying within the agricultural value chain, the non-farm business sector remains underdeveloped, leaving 87.5% of households completely unengaged in non-agricultural enterprises. Constraints such as limited capital, poor infrastructure, and a lack of entrepreneurial training prevent these medium-tier businesses from achieving significant capital accumulation. As Sajogyo observed, households with the most limited resources are often the most diversified by necessity, yet they remain trapped in a cycle of low-return activities. To achieve genuine rural equity, policy interventions must focus on expanding access to capital and management training to elevate these businesses to a higher level.

The historical arc of Pasir Kolecer contextualises these emerging inequalities. The initial corporate abandonment of the HGU land prompted informal reclamation, eventually leading to the highly necessary designation of the area as an object of agrarian reform (TORA). This transition from informal cultivation to the formal recommendation of land redistribution has been the essential prerequisite for rural “rehabilitation” and equity. However, even within this reformed structure, the sufficiency deficit breeds new dysfunctions. The structural analysis reveals a concentration of resources where 14.6% of households control 36.1% of the total land. This alarming internal disparity is primarily influenced by “distress land sales,” where beneficiaries are compelled to sell their holdings due to immediate economic pressures. Although AMANAT prohibits sales to non-members to ensure land remains within the community, this internal market allows some households to accumulate larger holdings while others manage as little as 200 m². Inequitable access to support services induces dysfunctions that force households back into survival-oriented strategies, subverting the core goals of the reform.

Ultimately, this study confirms that *de facto* land redistribution in Pasir Kolecer has effectively eradicated landlessness in the block and expanded both employment and business opportunities. The findings provide a contemporary validation of Sajogyo’s theories, illustrating that every sector of development must be responsible for “equity, solidarity, and independence”. The statistical relationship between land tenure and livelihood breadth underscores that land is the indispensable, fundamental enabler of rural economic development. However, fulfilling Sajogyo’s holistic vision requires acknowledging that land redistribution is necessary but wholly insufficient on its own. It must be systematically integrated with “Agrarian Reform Plus” support services—robust credit, market integration, and structural safety nets—to truly pave the “paths of equity” and transition vulnerable populations from precarious, pluriactive survival to sustainable, expansive agricultural growth.

CONCLUSION

This study confirms that the *de facto* land redistribution of ex-HGU land in the Pasir Kolecer Block has fundamentally restructured the agrarian economy of Dukuh Kaung, successfully expanding the foundational opportunity structure for local farming households. The statistical evidence provides a clear, quantitative validation of this necessary intervention, revealing a significant, moderate positive correlation between the level of land control and the structural breadth of household livelihood opportunities, specifically in terms of productive employment ($p = 0.022$; $r = 0.330$) and entrepreneurial business ventures ($p = 0.041$; $r = 0.263$). The transformative power of this redistribution is most profoundly evidenced by the total eradication of absolute landlessness within the study site, where a remarkable 70.8% of households that were previously landless—possessing no holdings outside the block—now command productive agrarian assets.

Beyond mere quantitative outcomes, these findings provide a critical contemporary validation of Sajogyo’s “Eight Paths of Equity Plus” framework. By demonstrating that the first two paths of equity—employment and business opportunities—are inextricably linked to land tenure, this study reinforces the absolute necessity of resource control as the primordial “plus” factor required for rural rehabilitation. The land redistribution has effectively provided the foundational asset base necessary for households to transition from “structural backwardness” toward a trajectory where the generation of an agricultural surplus is a viable economic strategy.

However, a critical, nuanced analysis of the prevailing livelihood structure exposes the critical tension between necessity and sufficiency, revealing that the transition to genuine “economic expansion” remains severely stunted. The emergence of the agrarian paradox is glaringly apparent in the high prevalence of extreme “pluriactivity.” The reality that 37.5% of households must engage in four or more simultaneous jobs indicates a desperate, necessity-driven survival strategy engineered to compensate for chronically insufficient agricultural returns, an acute crisis for the 52.1% of smallholders forced to manage less than 500 m² of land. This empirical reality dictates a stark conclusion: land redistribution, while serving as the critical catalyst, is fundamentally insufficient to trigger structural transformation when executed in isolation from broader support systems.

Consequently, this study strongly advocates for a structural shift in national policy paradigm by moving away from the bureaucratic simplicity of mere legal land titling toward a comprehensive “Agrarian Reform Plus” architecture. To genuinely maximize the economic outcomes of land-based livelihoods, the state and supporting civil society organizations must provide integrated robust secondary services. This mandates the aggressive expansion of access to formal credit, the provision of entrepreneurship and business management training, and the systemic strengthening of local supply chains. Only through

these interventions can highly active but vulnerable micro-ventures—such as the community’s burgeoning snack-processing sector—be elevated from precarious, survival-oriented safety nets into sustainable, high-growth commercial businesses.

Despite these vital insights, it is important to acknowledge that this study’s reliance on post-redistribution census data precludes the definitive establishment of a unidirectional causal relationship solely attributable to the redistribution program. The observed livelihood patterns of pluriactivity may reflect a complex amalgamation of new land access interacting with deeply entrenched pre-existing survival strategies. Furthermore, the alarming emergence of internal land concentration—where a wealthy minority of 14.6% of households has rapidly consolidated control over 36.1% of the total area via distress land sales—signals a critical, imminent risks of socio-economic re-stratification. Therefore, future research should employ longitudinal or quasi-experimental designs to systematically isolate the long-term causal impact of land redistribution on rural resilience and social equity (Netshipale et al., 2020). Such studies will be essential to monitor whether the “Paths of Equity” remain permanently paved for the most vulnerable members of society, ensuring they are not systematically subverted by the relentless pressures of unmitigated market forces and ongoing resource re-concentration.

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