

A Phenomenological Study of Farmers' Farm Business Diversification Decisions in Sidomulyo Village, Batu

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Abstract

Despite a high awareness of its benefits, the adoption rate of farm business diversification in Indonesia remains low, indicating a complex decision-making process beyond simple economic calculation. This study explores the lived experiences of farmers in Sidomulyo Village, Batu City, to understand the perspectives, driving factors, and obstacles influencing their diversification decisions. Employing a qualitative phenomenological approach, the research involved in-depth interviews with 23 informants, including farmers practicing various forms of diversification, non-diversifiers, and key village stakeholders. The findings reveal that diversification decisions are a non-linear social journey, triggered by critical moments such as crop failure, and mediated by learning from trusted “innovator farmer” role models. Social capital within farmer groups functions paradoxically as both an enabler, through information exchange and safety nets, and a constraint, through conformity pressures. Farmers demonstrate creative agency by utilizing traditional practices like gotong royong to overcome structural limitations in infrastructure and market access, yet remain constrained by them. Crucially, the meaning of diversification extends beyond income stability to encompass identity as innovators, a strategy for intergenerational succession, and nascent ecological awareness, with women often acting as the hidden drivers of change. This research critiques top-down extension models, recommending policies that facilitate social learning, strengthen both bonding and bridging social capital, and address gendered constraints to foster more resilient and sustainable agricultural livelihoods.

Keywords: Agency, Diversification, Farmer Decision-Making, Social Capital, Sustainable Livelihoods

1. Introduction

Indonesia faces serious challenges in the agricultural sector, including increasingly extreme climate change, global commodity price fluctuations, and declining environmental carrying capacity. Based on data from the Central Statistics Agency (2023), approximately 38% of farming households in Indonesia live below the poverty line, with high dependence on a single main commodity that is vulnerable to market and climate shocks. Farm business diversification has emerged as a potential adaptation strategy to improve food security, income stability, and environmental sustainability.

A recent meta-analysis study by Sánchez Bogado et al. (2024) shows that social capital including farmer networks, access to extension services, and community trust is the most consistent factor in driving diversification adoption, even stronger than traditional economic factors such as land size or access to credit. However, the rate of diversification adoption in Indonesia remains low. Based on the Inter-Census Agricultural Survey (2023), only 23% of farming households in East Java practice business diversification, even though 67% of them are aware of its benefits. This gap between awareness and practice indicates the complexity of the decision-making process that cannot be explained by economic factors alone.

The traditional agricultural research paradigm tends to use a quantitative-positivistic approach that ignores the social-cultural context, subjective meanings, and farmer agency. As expressed by



Cáceres et al. (2015), values and perceptions differ among social groups regarding biodiversity and agricultural practices, indicating the need for contextual understanding. A qualitative approach becomes important for uncovering how farmers make decisions, what narratives shape their perceptions, and what social dynamics influence the adoption process .

Sidomulyo Village in Batu District, Batu City, was selected as the research location because it represents the context of dryland-based agriculture that is vulnerable to climate change, with significant variation in diversification adoption rates among farming households. This location also has a long history of diversification program interventions from various institutions, providing an opportunity to examine the effectiveness of top-down approaches versus bottom-up initiatives. Sidomulyo Village has a distinctive agricultural history shaped by gradual land-use transformation and community-based farming practices. Initially developed as an agrarian settlement relying on subsistence farming, the village experienced changes following government agricultural expansion programs and the introduction of modern cultivation techniques. These historical processes influenced local knowledge systems, patterns of land ownership, and farmers' collective experiences in responding to agricultural innovation. Consequently, farmers' decisions in Sidomulyo cannot be separated from historical interactions between traditional practices, external interventions, and community adaptation strategies, making a qualitative and context-sensitive research approach particularly relevant.

Based on the background described above, this research departs from a problem formulation focused on the dynamics of farm business diversification in Sidomulyo Village. Several key questions that form the foundation of this research include: how the decision-making process of farmers in conducting farm business diversification works, what factors influence those decisions from the farmers' perspective, how the social, economic, and cultural context shapes the thinking and actions of farmers toward diversification, and what the meaning of diversification is for their livelihood sustainability strategies.

In general, the purpose of this research is to deeply understand the factors that influence farmers' decisions in farm business diversification. More specifically, this research aims to describe the diversification decision-making process from the farmers' perspective, identify and analyze the factors influencing those decisions, understand the role of socio-cultural context in shaping decisions, and interpret the meaning of diversification for farmers' livelihood sustainability strategies.

This research is expected to provide benefits both theoretically, practically, and methodologically. Its theoretical benefits include developing contextual understanding of decision-making theory in the Indonesian agricultural context, contributing to the innovation adoption literature with a constructivist perspective, and testing the relevance of the sustainable livelihoods framework in the context of farm business diversification. Its practical benefits include providing policy recommendations based on a deep understanding of farmers' realities, formulating extension intervention designs that are more responsive to local contexts, and developing diversification assistance models that take into account community social dynamics. Meanwhile, its methodological benefits include demonstrating the strength of the qualitative-phenomenological approach in agricultural innovation adoption studies and developing research instruments that can be replicated in other contexts.

2. Literature Review

2.1. Farm Business Diversification

Farm business diversification can be defined as the expansion of agricultural activities beyond traditional core production, encompassing horizontal diversification (addition of commodities), vertical diversification (processing and marketing), and lateral diversification (agrotourism, services)

(Sánchez Bogado et al., 2024). Unlike specialization which aims for scale efficiency, diversification focuses on risk spreading and optimization of resource use. Previous research identifies several typologies of diversification:

- a. Product diversification: Addition of horticultural crops, livestock, or fisheries
- b. Process diversification: Conversion to organic, certification, post-harvest processing
- c. Market diversification: Direct sales, partnerships, e-commerce
- d. Spatial diversification: Utilization of marginal land, agroforestry

2.2. Decision-Making Theory in the Agricultural Context

The Theory of Planned Behavior explains that the intention to behave is influenced by attitude toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). In the context of diversification, attitudes are influenced by perceptions of benefits and risks; subjective norms by reference group expectations; and behavioral control by resource access. However, criticism of TPB indicates that this model is individualistic and ignores structural context. Therefore, this research integrates the Social Capital approach (Putnam, 2000) that emphasizes the role of networks, norms, and trust in facilitating collective coordination. Sánchez Bogado et al. (2024) in their meta-analysis affirm that social capital has the most consistent effect on diversification, surpassing human and financial capital.

2.3. Sustainable Livelihoods Framework

The Sustainable Livelihoods Framework (SLF) views diversification as a household strategy for managing capital (human, social, financial, physical, natural) in the context of vulnerability and structural transformation (Scoones, 2015). Diversification is not merely an economic choice, but a response to structural pressures and sustainability aspirations.

2.4. Previous Research

Qualitative research by Elias (2015) on shea bioeconomy in Burkina Faso reveals how gender and power structures shape access to resources and diversification decisions. This study shows that diversification often reinforces existing inequalities unless accompanied by transformation of power relations. Diversification research in Indonesia is still dominated by quantitative approaches such as multiple regression (Rahman, 2018; Susilowati, 2018) that identify demographic and economic determinants. However, this approach fails to explain the psychosocial mechanisms and decision-making processes behind diversification decisions (Yusriadi et al., 2024). This limitation is explicitly acknowledged by Paunić et al. (2025) who show that quantitative methods are often inaccurate in capturing data about farmers' attitudes and identities. Therefore, this research fills the literature gap by using an in-depth qualitative approach (Yusriadi, 2025) to uncover the lived experiences and adaptation strategies of farming households.

2.5. Social Networks and Embeddedness in Agricultural Decision-Making

Social networks play a critical role in shaping farmers' diversification decisions. Granovetter (1990) theory of embeddedness emphasizes that economic actions are not isolated but are embedded in networks of social relations. Farmers' choices are influenced by trust, norms, and relationships with neighbors, peers, and local institutions. Embeddedness explains why farmers rely on observations of successful peers, recommendations from farmer groups, or informal knowledge exchange rather than purely economic calculations.

In agricultural diversification, embeddedness suggests that adoption decisions are contingent not only on individual risk assessments but also on the density and quality of social ties, the presence of

role models, and access to collective resources. This aligns with the social capital approach (Putnam, 2000) by demonstrating that networks can reduce uncertainty, facilitate learning, and provide safety nets in situations of high environmental and market risk. Integrating embeddedness theory into this study allows for a deeper understanding of how social context mediates the translation of structural opportunities into actual diversification practices.

3. Methods

3.1. Research Design

This research uses a phenomenological qualitative design with an in-depth single case study approach, or intrinsic case study. The phenomenological design was chosen to understand the essence of farmers' lived experiences related to diversification as they directly feel and give meaning to it, while the case study approach allows researchers to explore contextual complexity that cannot be reduced to isolated variables. The qualitative approach itself is used to produce "thick description" as proposed by Geertz (1973), capable of revealing meanings, processes, and social dynamics in their entirety.

The paradigm underlying this research is critical constructivism, which views knowledge and social reality as socially constructed through human interaction, experience, and interpretation, while simultaneously recognizing that these constructions are influenced by broader social, economic, and power structures. Unlike purely constructivist perspectives that focus solely on subjective meaning-making, critical constructivism also examines how institutional policies, market forces, and development discourses shape farmers' perceptions, opportunities, and decision-making processes.

The selection of this paradigm is justified because agricultural diversification is not merely a technical or economic decision but a socially embedded process shaped by historical experience, local knowledge, institutional intervention, and unequal access to resources. Farmers actively interpret innovations based on their cultural values and lived realities, yet their choices are also constrained or enabled by external structures such as government programs, market systems, and agricultural policies. Therefore, critical constructivism provides an appropriate epistemological foundation to capture both farmers' subjective experiences and the structural influences that frame diversification practices.

3.2. Research Location and Time

This research was conducted in Sidomulyo Village, Batu District, Batu City, East Java Province, with the consideration that the location represents dryland agroecology with annual rainfall ranging between 1,500 to 2,000 mm and land slopes between 15 to 30 percent. In addition, the village exhibits interesting variation in diversification adoption levels, ranging from maize specialization practices to the integration of food crops, horticulture, and livestock. Accessibility and the presence of extension infrastructure such as the Agricultural Extension Center, Cooperative, and NGOs were also important considerations, given that the village has a long history of diversification program interventions since 2015, including through the Upsus Program, CORIGAP, and various CSR programs. The research period is planned to last six months, from July to December 2025, covering the maize planting and harvest seasons as well as the horticultural crop cycle, thereby enabling comprehensive observation of farm business dynamics.

3.3. Research Informants

The selection of informants in this research was carried out using a purposive sampling strategy based on theoretical criteria, or theoretical sampling, supplemented by snowball sampling technique to reach informants more broadly. Selection criteria for main informants included farmers who had been actively diversifying for a minimum of two years, falling into three categories. The first category is

product diversification, namely farmers who have added commodities such as chili, shallots, or goat livestock, totaling five people. The second category is market diversification, namely farmers involved in direct sales or partnerships with restaurants, totaling three people. The third category is process diversification, including farmers implementing organic farming or conducting post-harvest processing, totaling two people. In addition, for comparison purposes, five farmers who did not practice diversification were also included, citing reasons such as capital limitations, risk-averse attitudes, or persistent strong traditional norms.

Key informants in this research numbered eight people, consisting of two agricultural extension workers, two farmer group leaders from Farmer Groups “Makmur Sejahtera” and “Sido Maju,” two trader-collectors, one female representative from the Women Farmers Association, and one Village Head. Overall, the total number of informants involved was 23 people, determined based on the principle of data saturation. The profile of main informants shows an age range of 35 to 65 years with an average age of 48 years. The educational level of informants varies: elementary school graduates at 30 percent, junior high school graduates at 40 percent, senior high school graduates at 25 percent, and diploma or undergraduate graduates at 5 percent. The land area managed ranges from 0.3 to 2.5 hectares with an average of 0.8 hectares, while their farming experience ranges from 15 to 40 years.

3.4. Data Collection Technique

The data collection technique used is in-depth interview, conducted in a semi-structured manner with a flexible interview guide developed based on the research conceptual framework. Each interview session lasted between 60 to 120 minutes, was recorded with an audio recorder with the informants' permission, and accompanied by field notes. Interview themes covered life history and farming trajectories, crisis experiences such as drought, price crashes, or disease outbreaks, the process of introduction to and consideration of diversification including who influenced them, information sources, and the trial process, the role of family, neighbors, and institutions in decision-making, implementation experiences including successes, failures, and adaptations, risk perceptions and risk management strategies, and future plans and aspirations for the next generation. Interview techniques applied include probing, prompting, active listening, and member checking to ensure validity of understanding.

3.5. Data Analysis

The data analysis process in this research refers to the interactive model developed by Miles & Huberman (1994), implemented through three main stages systematically and interrelatedly. The first stage is data reduction, which begins with transcribing all interview results verbatim, followed by a data selection process to choose the most relevant information for the research focus, and the preparation of case summaries per informant to facilitate data management. The second stage is data display, carried out by constructing matrices based on emerging themes, mapping the interrelationships between categories, and creating visual case profiles per informant to depict relationships between findings in a more structured and comprehensible manner. The third and final stage is conclusion drawing, which includes identifying patterns and experiential themes from the presented data, verifying with other supporting data, and formulating the essence of experience through textural and structural descriptions. To strengthen the overall analytical process, a staged coding technique was also applied, including open coding as the initial coding step from transcription results, axial coding to group categories and subcategories, and selective coding to integrate the main themes that form the core of the research findings.

4. Results and Discussion

4.1. Research Results

4.1.1. The Decision-Making Process as a Social Journey

No farmer decided to diversify suddenly. The decision was always preceded by a critical moment that shook confidence in the existing system. Mr. Sutrisno (52 years old) recounted: *“The dry season of 2015 was hell. The maize harvest failed, debts to the middleman piled up. I remember my father crying in the field, the soil cracking. That was the turning point, I thought we cannot keep going like this.”* These critical moments varied: drought (8 informants), price crashes (6 informants), crop disease (4 informants), or livestock death (2 informants). Interestingly, not all farmers who experienced the same crisis reacted similarly, there was mediation by social capital and adaptive capacity.

In all cases of successful diversification, there was a figure of an innovator farmer who served as a reference. Mrs. Yanti (45 years old) revealed: *“I saw Mr. Wagino, the neighbor next door, his maize also failed the same way, but he was able to pay for his children’s schooling because of chili. I approached him, asked to be taught. Without a real example right in front of my eyes, I would not have dared.”* These farmer role models were not formal extension workers, but ordinary farmers who had succeeded earlier, functioning as demonstrations of effectiveness, uncertainty reducers, and sources of practical knowledge.

The adoption process was incremental and iterative, not a large-scale transformation. Mr. Wagino (48 years old) explained: *“First I planted chili in the corner of the field, just 10 plants. If I planted a lot right away, I was afraid of failure. In the second year, 50 plants; in the third year, finally half a hectare. Learning along the way, watching the market.”* The phases undergone included observation (1–2 years), small-scale trial (1 year), gradual expansion (2–3 years), and multi-commodity integration, where success in each phase reinforced confidence for the next.

4.1.2. Social Capital as a Key Enabler

The “Makmur Sejahtera” Farmer Group, established since 2016, became a crucial forum in the diversification process. As the group leader expressed: *“In our group, we share both failures and successes. If someone plants tomatoes and they fail due to a virus, we discuss it together and look for solutions. Extension workers aren’t always around, but fellow sufferers always are.”* The group’s functions went beyond access to subsidized fertilizer inputs, encompassing information exchange networks on cultivation techniques, price predictions, and weather alerts; a safety net through interest-free emergency loans among members; collective bargaining in price negotiations with traders; and social sanctions as pressure to not deviate from group norms.

Trust and reciprocity norms also played an important role, as recounted by Mr. Joko (38 years old): *“I borrowed money from the Group Leader to buy goat seedlings. No documents, no interest. As long as you’re honest later when I profit, I’ll help others. That’s what made me brave enough to take the risk.”* Social capital in the form of this trust enables access to resources not individually possessed, although this trust is limited to primordial networks such as neighbors, relatives, and fellow group members, making it difficult to extend beyond the village.

However, paradoxically, strong networks can become an obstacle. Mr. Tono (41 years old) recounted: *“When I wanted to plant chili, many said: ‘Don’t, you’ll lose money, just stick with maize, that’s already a blessing.’ They were afraid I would fail, but also jealous if I succeeded. I still went ahead because I had already seen examples in other villages.”* Conformity norms in small communities can hinder innovation, so innovator farmers must have sufficiently strong social capital to withstand the pressure or seek alternative networks such as other farmer groups or contacts outside the village.

4.1.3. Agency within Structural Constraints

Farmers demonstrated creative agency in overcoming resource limitations. Mr. Sardi (44 years old) gave an example: *“I didn’t have the capital for a goat pen. I offered a partnership to a neighbor who had an empty pen: I buy the goats, he provides the pen, profits split in half. Creativity without capital.”* Other strategies found included *gotong royong* (communal labor) for land cultivation, seed exchange among farmers, and consignment sales to village stalls. This shows that diversification does not always require large financial capital, but rather the ability to manage social capital.

Women played a strategic role that is often overlooked. Mrs. Siti (42 years old) recounted: *“My husband initially didn’t agree to planting vegetables, said it was too complicated. I planted quietly in the backyard. After the results could pay for the children’s schooling, only then did he agree. Women have to prove it first before being heard.”* In 7 out of 10 diversification cases, women were the initial drivers especially for household food diversification such as vegetables and poultry. However, final decisions still involved negotiation with husbands, especially for large investments such as large livestock and processing equipment.

Nevertheless, agency does not mean freedom from structure. Mr. Amat (50 years old) complained: *“I wanted to sell directly to restaurants in Malang, but I don’t have a vehicle. Village transportation runs only twice a week. In the end, I still go to the middleman, even though the price is lower.”* Infrastructure constraints such as roads, transportation, and electricity, as well as market access and licensing and certification policies, limit farmers’ room to maneuver. Diversification succeeds not because there are no constraints, but because farmers find gaps within those structures.

4.1.4. Risk Perception and Management Strategies

Farmers perceive risk not only from the economic dimension, but also social, ecological, and spiritual risks. Mr. Budi (46 years old) stated: *“I’m not afraid of losing money, I’m afraid of neighbors laughing at me. In the village, reputation is important. That’s why I tried it out first on land that’s not visible to many people.”* To manage risk, farmers applied various strategies such as spatial diversification by spreading crops across various locations with different micro-characteristics, temporal diversification through staggered planting to avoid simultaneous harvests, hedging by combining safe crops such as maize with speculative crops such as chili, and social insurance in the form of guarantees from the farmer group that would help in the event of failure.

4.1.5. The Meaning of Diversification for Sustainability

For successful farmers, diversification is not merely an economic strategy, it has become an identity. Mr. Wagino stated proudly: *“I’m proud to be called an innovator farmer. My children who are in college are not ashamed to admit their father is a farmer. Because we are not poor, we are smart at managing nature.”* This identity provides social status that was previously only obtained from land size or position, now obtained from the success of innovation.

Another strong motivation is the desire to pass on the farming business to the next generation. Mr. Sutrisno expressed: *“I diversify not for myself, but for my children. If it’s only maize, they will certainly leave the village. But if there’s livestock, there’s processing, maybe they’ll be interested in continuing.”* This shows diversification as a social reproduction strategy, an effort to maintain family status and attract the younger generation back to farming.

There is a paradox in the practice of intensive diversification into chili and shallot commodities, which often increases the use of chemical pesticides. Nevertheless, a small movement toward organic farming is beginning to emerge. Mrs. Yanti recounted her awareness: *“I’m beginning to realize, our soil is getting sick. My chili used to be good without chemicals, now I have to use them. I’m trying to return to*

the ways of my ancestors: compost, rotation, cover crops. Slow, but the soil becomes healthy.” This ecological awareness is beginning to grow, albeit still limited to a small group of farmers.

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4.2. Discussion

4.2.1. The Decision Process as a Social Journey

The findings affirm that the diversification decision is not a rational individual event, but a social process embedded in community networks (Granovetter, 1985). The role of “farmer role models” is highly crucial, they function as credibility signals that reduce uncertainty under conditions of asymmetric information. This is consistent with the findings of Sánchez Bogado et al. (2024) on the importance of social capital, but adds nuance: social capital is effective when embodied in concrete figures that can be observed, not in abstractions of community. The trial-and-error process observed shows diversification as a practice of situated learning within communities of practice (Lave & Wenger, 1991). Farmers learn not from manuals, but from gradual participation in group activities.

Social Capital: Enabler and Constraint

The findings confirm the “social capital paradox” hypothesis (Portes, 1998) which is the same network can both facilitate and hinder. Bonding social capital (solidarity within the group) provides a safety net, but bridging social capital (connections between groups) is more important for innovation. Successful innovator farmers are those who are able to bridge networks—for example, contacts with farmers in other villages or extension workers from outside. Farmer groups function as endogenous institutions that reduce transaction costs and moral risk. However, their effectiveness depends on the presence of visionary leaders and strong reciprocity norms. In this village, the success of the “Makmur Sejahtera” Farmer Group is contrasted with the failure of “Sido Maju,” which was torn apart by personal conflicts.

4.2.2. Agency within Constraints

Giddens (1986) structuration theory is relevant here which shows that farmers do not simply passively receive structures (poverty, isolation), nor are they free to create new realities. They reproduce and transform structures through everyday practices. Example: gotong royong (a traditional practice) is adapted for diversification (new social capital). Farmer creativity in working around financial capital limitations demonstrates the modality of hidden transcripts (Scott, 1990), lower-class strategies not visible in formal economic analysis. This challenges the assumption that diversification requires access to formal credit.

4.2.3. Gender and Generation

Findings about women’s roles confirm the “feminization of agriculture” in Asia (Quisumbing & Doss, 2021), but with nuance: women are not merely workers, but agents of change in diversification. However, gendered constraints persist: limited access to land (formal ownership), credit (requiring husband’s guarantee), and public space (farmer group meetings dominated by men). The legacy motivation for the next generation shows diversification as an intergenerational mobility strategy. This

explains why farmers are willing to sacrifice short-term consumption for long-term investment, they view farming as a family project, not an individual one.

4.2.4. Policy Implications

The findings of this research fundamentally critique the conventional extension approach that has long focused on technology transfer without understanding the complex social process of adoption. Based on a deep understanding of the dynamics occurring in the field, several policy recommendations are formulated as follows. First, an approach that values the process, not merely the product, is needed, so that agricultural development programs must provide space for trial-and-error and give meaning to failure as part of farmers' learning. Second, more serious investment in innovator farmers is needed by identifying and supporting them as agents of change, as farmer role models have proven to be more effective learning sources than formal extension workers alone. Third, strengthening social capital becomes an important agenda by facilitating the formation of inclusive farmer groups and giving special attention to women's participation within them. Fourth, efforts to reduce structural risks such as construction of road, electricity, and internet infrastructure have proven to be more critically important than merely providing input subsidies if the goal is sustainable diversification. Fifth, gender-responsive policies are needed by designing programs that consciously accommodate women's role as drivers of diversification, for example through micro-credit schemes that do not require the husband's approval or collateral.

4.2.5. Diversification Between Risk, Failure, and Ecological Trade-Offs

The findings indicate that agricultural diversification cannot be interpreted solely as a successful innovation pathway, as experiences of failure and deliberate non-adoption also form an important part of farmers' decision-making landscape. Several farmers who attempted diversification eventually returned to monocropping after experiencing pest attacks, price instability, or debt accumulation. For economically vulnerable households, diversification may increase exposure to financial risk rather than reduce it. Likewise, some farmers consciously chose not to diversify due to age, limited labor capacity, or fear of social and economic loss. These cases demonstrate that non-adoption represents a rational livelihood strategy shaped by risk perception and household resilience rather than resistance to change.

Furthermore, diversification practices reveal an ecological contradiction. While diversification improves income stability and strengthens household resilience, the shift toward high-value horticultural commodities often leads to intensified pesticide use to prevent crop failure under competitive market conditions. Farmers recognize the negative impacts on soil health and environmental sustainability; however, immediate economic survival frequently takes precedence over long-term ecological considerations. As a result, diversification produces a paradox in which economic sustainability at the household level may coexist with ecological degradation.

This tension highlights that farmers' agency operates within structural pressures imposed by markets, infrastructure limitations, and production risks. Sustainable diversification therefore cannot rely solely on farmers' awareness or individual initiative but requires institutional support that aligns economic incentives with environmentally responsible practices. Without such alignment, diversification risks becoming economically adaptive yet ecologically unsustainable, reinforcing the need for development approaches that simultaneously address livelihood security and environmental resilience.

5. Conclusion

This research finds that farmers' decisions to diversify their farm businesses constitute a complex and non-linear social process, far exceeding mere economic calculation. Diversification arises from critical moments such as drought or crop failure that shake confidence in the existing system, then is responded to through learning from innovator farmers who serve as real-life examples in the field, and is carried out through a long trial-and-error phase before being fully adopted. Social capital proves to be the most determining factor, yet functions dually: internal networks provide a safety net, while external networks become a source of new innovation. Farmers demonstrate creative agency through gotong royong and informal partnerships to overcome limitations, although they remain constrained by poor infrastructure and narrow market access. The meaning of diversification itself goes beyond economic matters, encompassing pride of identity as innovators, a legacy for the next generation, and the beginning of growing ecological awareness. Women are often-overlooked initial drivers, while the motivation of passing on the business makes diversification a long-term investment.

This research has several limitations that need to be carefully noted. First, the findings are contextual to Sidomulyo Village with its particular agroecological and social characteristics, so generalization to other regions requires caution. Second, the six-month research period is cross-sectional in nature and therefore unable to capture long-term dynamics and the actual impact of diversification on family asset accumulation. Third, the subjectivity of the researcher as an outsider with an agricultural education background still influences interpretation, despite triangulation and reflexivity having been conducted. Fourth, the power relations between researcher and informants potentially limit openness, especially for sensitive issues such as conflict or informal practices, because farmers view the researcher as a guest who must be respected.

Based on these findings and limitations, several recommendations are put forward. For scientific development, a theoretical framework is needed that integrates psychological, social, and economic aspects with attention to power relations and gender, as well as longitudinal research and comparative inter-regional studies. For methodology, future research is recommended to use participatory action research that involves farmers as co-researchers, as well as visual methods such as photovoice to capture dimensions that are difficult to express verbally. For policy, a reorientation of extension is needed from technology transfer to the facilitation of social learning, strengthening farmer group capacity in terms of leadership and networking, prioritization of enabling infrastructure development such as roads and digitalization, gender-transformative policies with collateral-free credit access for women, development of affordable agricultural insurance, and innovator farmer mentoring programs with incentives for mentors.

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