

Social Capital Configurations in the Livelihood Resilience of Pineapple Farmers: Bonding, Bridging, and Linking in Prabumulih, Indonesia

Rudy Kurniawan^{1*}, Andries Lionardo², Deviana Mayasari³, Yusnaini⁴

^{1,4} Department of Sociology, University Sriwijaya, Palembang, Indonesia

² Department of Public Administration, University Sriwijaya, Palembang, Indonesia

³ Department of Sociology, University Brawijaya, Malang, Indonesia

*Corresponding Author, E-mail: rudykurniawan@fisip.unsri.ac.id

Abstract

This study aims to interpret the lived experiences of pineapple farmers in mobilizing social capital to build livelihood resilience in Prabumulih, South Sumatra Province, Indonesia. The study employed a qualitative approach with an interpretative phenomenological design. The researchers purposively selected 25 informants, including farmers as the primary informants and supporting actors involved in pineapple processing, farmer groups and cooperatives, and agricultural institutions. The researchers collected data through semi-structured in-depth interviews, field observations, and documentation and analyzed the data using an interpretative phenomenological approach guided by abductive reasoning. The findings reveal three relational mechanisms. First, kinship reciprocity rooted in *Seinggok Sepemunyian* generates bonding social capital that strengthens buffer capacity through trust, solidarity, and mutual assistance. Second, value-added collectivity through the MIWA Cooperative, women farmers' groups, agritourism, fiber processing, and knowledge networks generates bridging social capital that strengthens self-organization and the capacity for learning. Third, empowerment linkages with government institutions, state-owned enterprises, private companies, and knowledge institutions generate linking social capital that expands farmers' access to technology, resources, markets, and institutional authority while strengthening their agency and transformative capacity. This study demonstrates that livelihood resilience does not merely constitute a household-level capacity; rather, farmers activate it relationally through configurations of bonding, bridging, and linking social capital that are rooted in local culture and enable them to move from coping toward adaptation and transformation.

Keywords: Pineapple Farmers; Social Capital; Livelihood Resilience; *Seinggok Sepemunyian*.

Abstrak

P Penelitian ini bertujuan untuk menginterpretasikan pengalaman hidup (*lived experience*) petani nanas dalam mengaktifkan modal sosial untuk membangun ketahanan penghidupan (*livelihood resilience*) di Prabumulih, Provinsi Sumatera Selatan, Indonesia. Penelitian menggunakan pendekatan kualitatif dengan desain fenomenologi interpretatif. Sebanyak 25 informan dipilih secara purposif, meliputi petani sebagai informan utama serta aktor pendukung yang terlibat dalam pengolahan nanas, kelompok/koperasi, dan kelembagaan pertanian. Data dikumpulkan melalui wawancara mendalam semi-terstruktur, observasi lapangan, dan dokumentasi, kemudian dianalisis secara fenomenologis interpretatif dengan logika abduktif. Hasil penelitian menunjukkan tiga mekanisme relasional. Pertama, resiprositas kekerabatan berbasis *Seinggok Sepemunyian* membentuk *bonding social capital* yang memperkuat *buffer capacity* melalui kepercayaan, solidaritas, dan bantuan timbal balik. Kedua, kolektivitas nilai tambah melalui Koperasi MIWA, kelompok wanita tani, agrowisata, pengolahan serat, dan jaringan pengetahuan membentuk *bridging social capital* yang memperkuat *self-organization* dan *capacity for learning*. Ketiga, tautan pemberdayaan dengan pemerintah, BUMN, perusahaan, dan institusi pengetahuan membentuk *linking social capital* yang memperluas akses terhadap teknologi, sumber daya, pasar, dan otoritas, sekaligus memperkuat *agency* dan kapasitas transformatif. Penelitian ini menunjukkan bahwa *livelihood resilience* bukan hanya kapasitas rumah tangga, tetapi kapasitas yang diaktifkan secara relasional melalui

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konfigurasi *bonding-bridging-linking* yang berakar pada budaya lokal dan menggerakkan petani dari bertahan menuju beradaptasi dan bertransformasi.

Kata Kunci: Petani Nanas; Modal Sosial; Ketahanan Penghidupan; Seinggok Sepemunyian.

INTRODUCTION

The agricultural sector continues to support the livelihoods of millions of households in Indonesia, yet farmers face various structural constraints that threaten the sustainability of their livelihoods (Chrisendo et al., 2020; Hastuti et al., 2025; Mehraban & Ickowitz, 2021). The 2023 Agricultural Census reported that Indonesia had 27,802,434 farmers who used agricultural land, including 17,251,432 small-scale farmers who cultivated less than 0.5 hectares of land (Badan Pusat Statistik, 2023). At the same time, the census recorded 6,183,009 farmers aged 19–39 years, representing 21.93% of the total farming population and indicating a challenge for farmer regeneration and the long-term sustainability of the national agricultural sector (Badan Pusat Statistik, 2023). These conditions demonstrate that agricultural sustainability depends not only on production capacity but also on farming households' ability to sustain their livelihoods despite limited assets and various external pressures. From a livelihood resilience perspective, this ability refers to the capacity of individuals and households to cope with shocks, adapt to changing circumstances, and sustain their livelihoods amid social, economic, and environmental changes (Tanner et al., 2015; Tohidimoghdam et al., 2023; Zhao et al., 2023). This issue becomes particularly relevant in regions that possess a strong agricultural identity and substantial commodity potential but continue to experience livelihood vulnerability.

Pineapple farming in Prabumulih City, South Sumatra, illustrates this paradox between commodity potential and livelihood sustainability. Pineapple represents one of the horticultural commodities with a strong production base in the region. Badan Pusat Statistik Kota Prabumulih (2026) reported that pineapple production reached 34,865.64 quintals in 2025. The region's agronomic characteristics also support this production potential. Direktorat Jenderal Hortikultura (2023) reported that pineapple cultivation in Prabumulih primarily occurs in the districts of Prabumulih Timur, Cambai, and Rambang Kapak Tengah, where farmers widely cultivate the Queen variety. This production base confirms the importance of pineapple as an economic resource for local farming communities. However, strong commodity production does not automatically ensure that farming households can sustain their livelihoods over time. Researchers must distinguish the strategic value of a commodity from producers' capacity to cope with income fluctuations, production pressures, market changes, and various risks that affect livelihood sustainability. Therefore, the central issue in pineapple farming in Prabumulih concerns not only farmers' ability to maintain production but also their capacity to build livelihood resilience amid social, economic, and environmental pressures.

Farming households face multidimensional livelihood pressures, including climate change, production uncertainty, rising input costs, limited resources, and changing market conditions (Irawan, 2025; Mardhatilla et al., 2026; Rudiarto et al., 2025). These pressures not only affect agricultural productivity but also constrain farmers' ability to maintain their income and adjust their livelihood strategies (Touch et al., 2024). In Prabumulih, some pineapple-farming households have developed additional sources of income through off-farm employment as a strategy to sustain their livelihoods. This condition demonstrates that researchers cannot adequately understand farmers' challenges solely as issues of income or poverty. Instead, they need to examine these challenges within the framework of livelihood resilience, which refers to the capacity to cope with disruptions, adapt to change, and sustain

livelihoods over time. Speranza et al. (2014) explain that three main dimensions shape this capacity: buffer capacity, self-organization, and capacity for learning. Therefore, farmers' livelihood resilience depends not only on the resources they possess but also on their ability to organize themselves and develop adaptive capacities in response to various pressures.

Farmers build livelihood resilience not only through material resources but also through their ability to mobilize social relationships as adaptive resources. In agricultural communities, trust, reciprocity, intergroup networks, and relationships with external institutions can expand farmers' access to information, knowledge, technology, markets, and economic resources. Scholars conceptualize these relationships through bonding social capital, which connects members within close social networks; bridging social capital, which connects different groups; and linking social capital, which connects individuals or groups with actors who possess greater resources or institutional authority (Cofré-Bravo et al., 2019; Szreter, 2004). In Prabumulih, preliminary indications of these patterns appear in reciprocal relationships among farmers, collective organization through groups and cooperatives, the processing of pineapple leaves into value-added products, and relationships with external institutions. Studies in Indonesia also show that trust, community participation, and social networks contribute to farmers' participation in climate change adaptation (Anggreany et al., 2026; Saptutyningsih et al., 2020; Yusriadi, 2025). Although agricultural studies have extensively examined the role of social capital, the literature still reveals several analytical tendencies and issues that require further investigation.

Research on farmers' livelihood resilience has developed along several major strands. The first strand conceptualizes livelihood resilience as the capacity of households to cope with, adapt to, and recover from various shocks. Speranza et al. (2014) operationalize this capacity through three dimensions: buffer capacity, self-organization, and capacity for learning. Tanner et al. (2015) extend this perspective by emphasizing the roles of agency, empowerment, and transformative change in sustaining livelihoods. Subsequent studies have used this framework to assess farming households' resilience to various pressures. Zhao et al. (2023), for example, measured farmers' livelihood resilience during the COVID-19 pandemic based on these three dimensions, while Tohidimoghadam et al. (2023) identified farmers' resilience capacities in responding to climate change. Although these studies strengthen the understanding of the dimensions and determinants of livelihood resilience, they primarily conceptualize resilience as a capacity that researchers can identify and measure. Consequently, the social processes through which farmers develop, sustain, and interpret these capacities still require more in-depth explanation.

The second strand conceptualizes social capital as a relational resource that supports farmers' adaptive capacities. Woolcock and Narayan (2000) define social capital as the norms and networks that enable collective action, while Szreter (2004) distinguish social capital into bonding, bridging, and linking forms. In agricultural contexts, these three forms of social capital enable farmers to obtain internal support, expand knowledge networks, and access resources from broader institutions. Cofré-Bravo et al. (2019) demonstrate that farmers combine bonding, bridging, and linking social capital to develop networks that support innovation, while Arnott et al. (2021) find that bridging and linking social capital strengthen farmers' ability to adapt to policy changes. Azad and Pritchard (2023) further demonstrate that the three forms of social capital can mutually reinforce one another in building adaptive capacity in response to risk. In the Indonesian context, Saptutyningsih et al. (2020) also show that trust, community participation, and social relationships contribute to farmers' adaptation to climate change. Nevertheless, these studies tend to explain social capital in terms of its functions, network configurations, and the resources that farmers

can access. As a result, researchers have given less attention to farmers' subjective interpretations of social relationships as part of the process through which they build livelihood resilience.

The third strand highlights the role of institutions, cooperatives, and external partnerships in strengthening farmers' capacities. Tuna and Karantininis (2021) show that agricultural cooperatives can function as social capital hubs that connect farmers with information networks and rural development resources. Manyise and Dentoni (2021) also explain that value-chain partnerships can strengthen farmers' entrepreneurial learning by pooling resources, knowledge, market information, and decision-making mechanisms. In the Indonesian context, Isnani et al. (2025) show that formal support and community-based assistance perform different but complementary functions in strengthening the resilience of farming communities. These findings confirm the importance of institutional relationships in expanding farmers' livelihood resources. However, the literature has primarily assessed institutional functions and benefits in terms of access, support, or resulting outcomes. Researchers still need to explain more deeply how farmers experience, interpret, and activate these institutional relationships in ways that develop adaptive and transformative capacities.

These three research strands demonstrate that studies of livelihood resilience and social capital remain relatively fragmented. Livelihood resilience studies largely explain resilience capacities, determinants, and outcomes, but they have not fully identified the relational mechanisms through which farmers develop these capacities. Meanwhile, social capital studies have demonstrated the roles of bonding, bridging, and linking social capital in farmers' adaptation, but they have not systematically explained how these three forms of social capital contribute to the dimensions of livelihood resilience. Institutional studies also tend to assess external support in terms of programmatic benefits, leaving farmers' subjective experiences of trust, reciprocity, resource access, and autonomy relatively underexplored. Carmen et al. (2022) emphasize that research on social capital and resilience needs to give greater attention to sociocultural dimensions and adopt approaches that can capture the complexity of social relationships. Therefore, a theoretical gap remains in explaining how farmers experience and interpret bonding, bridging, and linking social capital as relational mechanisms that shape buffer capacity, self-organization, capacity for learning, and livelihood transformation.

Based on this research gap, this study aims to explore and interpret the lived experiences of pineapple farmers as they mobilize social capital to build livelihood resilience in Prabumulih. Specifically, this study examines how kinship and reciprocal relationships generate bonding social capital, how cross-group relationships and collective activities generate bridging social capital, and how relationships with cooperatives, companies, and external institutions generate linking social capital. This study also analyzes how these three forms of social capital contribute to farmers' capacities to cope with pressures, organize themselves, learn, and transform their livelihoods. Therefore, this study moves beyond identifying the presence of social capital by explaining the relational mechanisms and subjective meanings through which farmers transform social networks into resources for livelihood resilience.

This study argues that material asset ownership alone does not determine farmers' livelihood resilience; farmers also build resilience by mobilizing social relationships as adaptive resources. Bonding social capital provides trust, reciprocity, and kinship support that strengthen buffer capacity when households face pressures. Bridging social capital expands collective action, knowledge exchange, and self-organization, whereas linking social capital provides access to external resources and institutions that strengthen agency and create opportunities for livelihood transformation. This argument extends the livelihood resilience framework developed by Speranza et al. (2014) by conceptualizing buffer capacity, self-organization, and capacity for learning not merely as capacities embedded within households but as

capacities that social relationships actively shape. This perspective also reinforces Tanner et al.'s (2015) argument that livelihood resilience should encompass agency, empowerment, and transformative change.

RESEARCH METHODS

The unit of analysis in this study was the lived experience of pineapple farmers as they interpreted and mobilized social relationships as mechanisms for building livelihood resilience in Prabumulih City. The analysis focused on farmers' experiences of building trust and reciprocity, developing collective action through groups and cooperatives, and establishing relationships with companies, government agencies, and external institutions when they faced economic and production pressures. This study positioned Prabumulih City as the socio-spatial context because pineapple farmers in this area demonstrate dynamic patterns of kinship relations, commodity value-added development, and institutional partnerships that are relevant to the development of livelihood resilience. Therefore, this study did not treat the geographical area, cooperatives, or empowerment programs as units of analysis. Instead, it focused on farmers' experiences and interpretations of the social relationships that support the sustainability of their livelihoods.

This study employed a qualitative approach with an interpretative phenomenological design. The researchers selected this design because the study did not aim to measure the levels of social capital or livelihood resilience. Instead, the study sought to understand how farmers experienced, interpreted, and assigned meaning to trust, reciprocity, collective action, and institutional relationships as they sustained their livelihoods. Interpretative phenomenology allows researchers to examine lived experiences not merely as a sequence of events but also as processes through which individuals construct meaning within particular social contexts (Smith et al., 2021). Therefore, this approach enabled the researchers to identify the relational mechanisms that connect farmers' social experiences with the development of livelihood resilience.

The researchers obtained primary data from 25 informants whom they selected through purposive sampling based on their involvement and experience in pineapple-based livelihoods in Prabumulih. Pineapple farmers served as the primary informants, while supporting informants included actors involved in pineapple fiber processing, farmer groups or cooperatives, and agricultural support institutions. The researchers selected the informants by considering their direct involvement in pineapple farming, their experience in dealing with livelihood pressures, their participation in farmer networks or product-processing activities, and their interactions with external institutions. These criteria enabled the researchers to obtain rich and relevant information about farmers' experiences in developing social capital and livelihood resilience.

The researchers collected data from February to June 2025 through semi-structured in-depth interviews, field observations, and document analysis. The researchers used in-depth interviews as the primary data collection technique to explore farmers' experiences of coping with livelihood pressures, building trust and reciprocity, participating in groups or cooperatives, developing pineapple leaf processing activities, and establishing relationships with external institutions. From February to June 2025, the researchers also conducted field observations to examine interactions among farmers, *gotong royong* practices, group or cooperative activities, pineapple fiber processing, and interactions with economic and institutional actors. The researchers used document analysis to complement the primary data and assess data consistency by examining group or cooperative profiles, production statistics, partnership documents, and records of institutional activities and assistance. The researchers integrated

these three data collection techniques to develop a comprehensive understanding of farmers' social experiences in building livelihood resilience.

The researchers analyzed the data using interpretative phenomenological analysis guided by abductive reasoning. They began the analysis by transcribing the data, repeatedly reading the transcripts, identifying units of meaning, and grouping patterns of experience into empirical themes that represented the informants' interpretations (Smith et al., 2021). The researchers then used abductive reasoning to place the emerging themes in dialogue with the concepts of bonding, bridging, and linking social capital and the dimensions of buffer capacity, self-organization, and capacity for learning. This process enabled them to develop theoretical interpretations without imposing predetermined theoretical categories on the data from the outset (Timmermans & Tavory, 2012). The researchers strengthened the credibility of the findings through source triangulation by comparing information across different actors and through methodological triangulation by examining the consistency of evidence from interviews, observations, and documents.

RESULTS AND DISCUSSION

Kinship Reciprocity as a Livelihood Safety Net: *Seinggok Sepemunyian* and Bonding Social Capital

The findings show that pineapple-farming households in Prabumulih experienced livelihood dislocation as they relied less on agriculture as their sole source of income. Limited agricultural income, production uncertainty, and declining labor availability encouraged some household members to seek employment outside the agricultural sector. This diversification indicates that farmers did not completely abandon agriculture. Instead, they reorganized their livelihood strategies by combining agricultural and nonagricultural activities to reduce household economic risks. This pattern reflects a process of agrarian livelihood reorientation in which economic pressures encourage rural households to expand their sources of income beyond farming activities (Bryceson, 2002). However, this shift also increased farmers' need for social resources that they could mobilize when households faced limited economic resources and labor capacity. Under these conditions, kinship relations, trust, and mutual assistance assumed strategic roles in sustaining farmers' livelihoods.

Farmers experienced increasing livelihood vulnerability because of labor shortages and limited generational renewal in pineapple farming. Agricultural laborers earned approximately IDR 40,000 for working from morning until midday and an additional IDR 30,000 if they continued working until the afternoon. As a result, workers perceived employment outside agriculture as more economically promising. These conditions also shaped intergenerational perceptions of the future of farming. Younger generations tended to show little interest in continuing family farming activities, while some parents actively encouraged their children to pursue higher education and obtain employment outside the agricultural sector, including positions as civil servants. Consequently, farming households did not fully transmit pineapple cultivation knowledge and skills to the next generation. Labor shortages subsequently compelled farmers to rely on relatives and neighbors and even to recruit workers from outside the region when local labor could not meet their needs. These experiences demonstrate that agriculture faces not only labor availability problems but also weakening intergenerational social reproduction, which increasingly makes the continuity of farming dependent on support from kinship and community networks.

Changes in the employment structure of Prabumulih City further indicate the declining position of agriculture as the primary source of livelihood. Data from BPS Kota Prabumulih show that in 2022, the service sector employed 59.04% of the workforce, followed by the manufacturing sector at 20.74%, while the agricultural sector employed only 20.21%. This composition indicates that most of the workforce had concentrated in nonagricultural sectors, while agriculture accounted for a relatively smaller proportion. Among pineapple-farming households, this shift indicates a tendency toward livelihood diversification, as household members combined agricultural activities with employment in the service or industrial sectors to reduce their dependence on farm income. This shift does not necessarily indicate that households abandoned agriculture; instead, it reflects their adjustment to limited income, production uncertainty, and changing local employment opportunities. Therefore, farmers experienced livelihood dislocation through changing income orientations, which simultaneously increased their dependence on social networks as buffers when agriculture could not fully meet household economic needs.



Figure 1. Percentage of the Population Aged 15 Years and Older by Employment Sector in Prabumulih City, 2022

Source: Badan Pusat Statistik Kota Prabumulih, 2023.

Amid these livelihood pressures, pineapple farmers interpreted *Seinggok Sepemunyian* as a moral foundation that sustains community cohesion and solidarity. This local value functions not merely as a regional slogan but also as a shared commitment to provide mutual assistance when community members experience difficulties (Pemerintah Kota Prabumulih, 2020). Farmers' experiences show that crop failures, fires during the dry season, labor shortages, or the need for planting materials prompted community members to provide labor, seedlings, and information without demanding immediate material compensation. A shared sense of hardship, mutual trust, and a moral obligation to support fellow farmers shaped these practices. Farmers did not interpret such assistance as a temporary transaction. Instead, they understood it as social reciprocity grounded in the expectation that support provided to others would eventually return when they encountered similar difficulties. Therefore, *Seinggok Sepemunyian* provides a cultural foundation that transforms social proximity into an informal protection mechanism for farming households.

The findings demonstrate that kinship reciprocity serves as the primary mechanism through which farmers transform social proximity into livelihood buffer capacity. Shared community backgrounds and common experiences of hardship generate trust, which enables families, relatives, and neighbors to provide labor, information, and assistance when households face limited resources. These internal networks help farmers respond more quickly to problems, including labor shortages, production disruptions, and farming needs that individual households cannot meet independently. These practices of mutual assistance and information sharing demonstrate that bonding social capital not only generates social cohesion but also provides practical resources that sustain agricultural activities. Within the livelihood resilience framework, this function represents buffer capacity, which refers to a household's ability to mobilize available resources to absorb pressures and maintain livelihood functions (Speranza et al., 2014). Therefore, trust and reciprocity within kinship networks operate as relational mechanisms that transform community solidarity into farmers' capacity to endure economic and production-related vulnerabilities.

Although bonding social capital strengthens farmers' capacity to endure hardship, it does not independently enable livelihood transformation. Internal networks based on family and community ties remain limited in their ability to provide market information, formal financing, technology, and broader economic networks. Farmers also continue to face uncertain market mechanisms and dependence on middlemen, which some farmers perceive as relationships that do not provide balanced reciprocity. Some farmers' hesitation toward new technologies further reinforces these limitations because they perceive such technologies as requiring substantial capital and introducing additional risks. These conditions demonstrate that internal trust and solidarity effectively function as survival mechanisms because they help farmers absorb short-term pressures. However, these resources alone do not sufficiently promote innovation, expand access to resources, or structurally improve farmers' economic position. Therefore, bonding social capital provides a foundation for livelihood resilience, but its effectiveness depends on connections with social and institutional networks beyond the internal community.

Overall, the first finding demonstrates that kinship reciprocity rooted in *Seinggok Sepemunyian* transforms local solidarity into a social safety net that strengthens pineapple farmers' buffer capacity. Trust, reciprocal assistance, and close community ties enable farmers to sustain their livelihood activities when they face labor shortages, economic pressures, and production disruptions. However, bonding social capital primarily strengthens farmers' ability to endure and absorb pressures rather than independently generating livelihood transformation. Limited access to information, technology, markets, and financing demonstrates that livelihood resilience requires networks that extend beyond the internal community. Therefore, farmers' transition from coping capacity to adaptive capacity depends on their ability to expand social relationships through cross-group and institutional networks.

Value-Added Collectivity: Bridging Social Capital, Self-Organization, and Livelihood Learning

The findings further show that pineapple farmers have begun to develop livelihoods that no longer depend solely on the sale of fresh fruit as their primary source of economic value. This shift has occurred through the establishment of farmer groups, women farmers' groups, cooperatives, agritourism initiatives, pineapple-derived products, and the utilization of pineapple leaf waste as a raw material for fiber production. These institutions enable farmers to organize resources, share knowledge, and develop economic activities collectively. This transformation demonstrates that livelihood institutions do not remain static but adapt to changes in resources, technology, markets, and household needs (Dharmawan,

2007; Hayami & Kikuchi, 1981). Stronger farmer organizations also expand farmers' capacity to manage production, processing, and marketing activities in a more coordinated manner (Anantanyu, 2011). Therefore, pineapple farmers have shifted their livelihood orientation from primary production toward value-added collectivity, which provides a foundation for self-organization and adaptive learning.

Farmers have also diversified their livelihoods through Prabumulih Pineapple Agrotourism, which has transformed pineapple farms into spaces for production, consumption, tourism, and marketing. The approximately 12-hectare agritourism area allows visitors to pick and enjoy pineapples directly from the plants while purchasing various processed products, including *dodol*, syrup, candied pineapple, and pineapple chips. Informant SA explained, "Since this agritourism site opened, many local tourists and visitors from outside the region have come to pick pineapples directly from the plants. They also purchase pineapple products such as syrup, candied pineapple, and *dodol*" (Interview with SA, June 13, 2025). This experience demonstrates that agritourism has expanded the function of pineapple farms from cultivation sites into value-creation spaces that connect agricultural production with tourism activities and markets. This transformation creates alternative income sources for farming households while strengthening their capacity to diversify their livelihoods beyond the sale of fresh pineapples.

Farmers have further transformed their livelihoods by converting pineapple leaf waste, which previously had no economic value, into a new source of income. Farmers and processors now gradually transform discarded pineapple leaves into fiber, yarn, fabric, and various handicraft products, thereby turning the zero-waste principle into a livelihood diversification strategy. This transformation not only expands the pineapple value chain but also creates new economic opportunities for household members who previously had limited direct involvement in cultivation activities. Women farmers' groups play an important role in sorting materials, processing fibers, weaving, and developing derivative products. As a result, pineapple-based economic activities no longer center exclusively on farm work. Women's involvement in waste processing expands household income sources while creating a more diversified division of labor within the economic activities of farming families. Therefore, the utilization of pineapple leaves demonstrates that waste-based innovation not only creates product value added but also expands women's economic participation and strengthens households' capacity to diversify their livelihood sources.

Pineapple fiber processing has also strengthened women's economic position within farming households. Members of women farmers' groups have transformed fiber processing from a supplementary activity into a source of income connected to markets beyond the local community. Informant F explained that her group had established a fiber supply contract with a textile collector in Bandung and earned approximately IDR 800,000–1,000,000 in additional income, depending on the quantity and quality of the fiber supplied. She stated, "Last month, after we divided the proceeds fairly according to the amount of fiber each member supplied, I earned an additional IDR 800,000 to IDR 1,000,000. I immediately used the money for monthly household expenses and electricity, which allowed us to save my husband's harvest income for our child's school expenses" (Interview with F, June 16, 2025). This experience demonstrates that value creation not only increases household income but also changes household economic allocation strategies by distributing consumption, utility, and education expenses across different income sources. Therefore, women's involvement in the pineapple fiber value chain broadens the household economic base while strengthening farming families' adaptive capacity to cope with uncertainty in agricultural income.

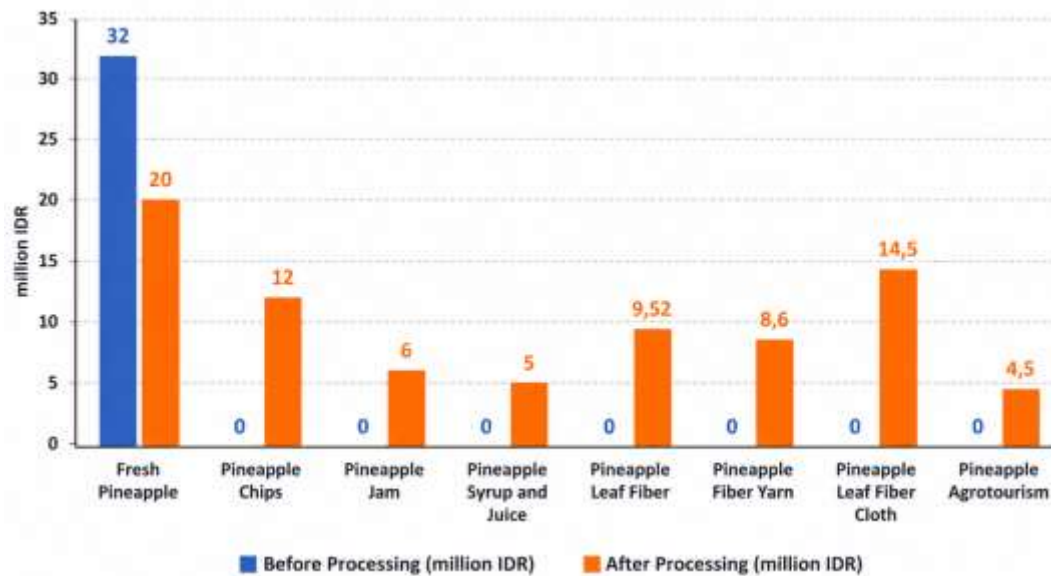


Figure 2. Changes in Farming Household Income Before and After Pineapple Processing

Source: Research data, 2025.

The MIWA Pineapple Producers Cooperative (*Mitra Iwari*), established in 2022, has further institutionalized value-added collectivity by connecting pineapple farmer groups from different areas of Prabumulih. The cooperative coordinates the supply of pineapple leaves, provides access to processing machinery, and creates a collective workspace that helps maintain continuity in fiber production. Informant AZ explained:

“Only the MIWA Cooperative has a pineapple fiber processing machine. Farmers come to the cooperative to process their pineapple leaves into fiber. The cooperative has brought pineapple farmers in Prabumulih together and enables them to help one another when they encounter difficulties” (Interview with AZ, June 18, 2025).

This experience demonstrates that MIWA not only provides production facilities but also transforms previously dispersed relationships among farmers into more organized patterns of coordination. Within the livelihood resilience framework, this process demonstrates the development of self-organization, which refers to farmers’ capacity to organize resources, establish cooperation, and sustain productive activities through institutions that they collectively utilize.

The pineapple leaf processing chain increases economic value at each stage of production. Pineapple fiber sells for approximately IDR 125,000 per kilogram, whereas processed yarn can reach approximately IDR 1,200,000. At the next stage, pineapple fiber fabric sells for approximately IDR 250,000–500,000 per meter. Artisans can produce approximately two meters of fabric per day and, at certain production levels, approximately 40 meters per month. The research data also indicate demand for pineapple fiber products in domestic markets and interest from international markets, including Singapore, Malaysia, and several parts of Europe. This pattern demonstrates that pineapple leaf utilization creates a value chain that transforms low-value waste into textile products with substantially higher economic value. This value creation not only expands farmers’ income sources but also increases the need

for production coordination, skill sharing, and supply continuity as components of farmers' collective capacity.

Farmers have also developed adaptive capacity through knowledge networks that connect their communities with academics from IPB University, Sriwijaya University, Universitas Gadjah Mada, and Universitas Muhammadiyah Palembang. These interactions expand farmers' access to knowledge beyond their communities, particularly knowledge related to seedling production, pineapple leaf fiber processing, liquid waste utilization, agricultural technology, and digital marketing. From the perspective of bridging social capital, these cross-group relationships allow farmers to access new knowledge and resources that remain unavailable within their internal networks. This finding aligns with Cofré-Bravo et al. (2019), who show that bridging networks help farmers explore new knowledge and resources that support agricultural innovation. However, the present findings demonstrate a broader function: knowledge exchange does not stop at information transfer but also shapes the quality of collective adaptive decision-making, particularly in pineapple leaf waste utilization and product diversification. Therefore, bridging social capital operates as a learning mechanism that expands the capacity for learning while strengthening groups' ability to formulate collective adaptive responses.

Overall, the second finding demonstrates that bridging social capital transforms farmers' internal solidarity into productive collectivity by strengthening cooperatives, diversifying economic activities, developing value-added products, and expanding knowledge networks. Cross-group relationships enable farmers not only to obtain new information but also to develop collective learning processes that strengthen self-organization and the capacity for learning. However, these networks do not automatically generate effective outcomes. Some farmers reported that knowledge provided by external actors, particularly academics, did not always correspond to their practical conditions and needs in the field. This finding demonstrates that bridging social capital works effectively when farmers can translate, negotiate, and adapt external knowledge to their local context. Therefore, farmers develop adaptive capacity through the process of bridging → collective learning → self-organization → capacity for learning, which subsequently expands the ability of farming households and farmer groups to adjust their livelihood strategies in response to change.

Empowerment Linkages: Linking Social Capital, Agency, and Livelihood Transformation

The findings show that farmers further strengthened their livelihood capacities when established horizontal networks connected them with actors who possessed broader resources, technology, authority, facilities, and market access. These relationships involved government institutions, state-owned enterprises (SOEs), private companies, financial institutions, universities, and research institutions that provided support from outside farming communities. These connections marked a shift from dependence on internal resources toward the use of vertical relationships that expanded farmers' options for action and strengthened their groups' economic capacities. From the perspective of linking social capital, relationships with institutions that possess authority and strategic resources enable farmers to access opportunities and resources that kinship or intergroup networks alone cannot easily provide. Therefore, livelihood resilience depends not only on internal cohesion but also on farmers' ability to establish institutional relationships that create opportunities to strengthen agency and transform their livelihoods.

These vertical relationships provided farmers with tangible access to technology, skills, and production facilities that they previously could not easily obtain independently. The research data documented support from PT PLN (Persero) through assistance for pineapple-based micro, small, and medium enterprises (MSMEs), marketing training, product licensing support, and equipment provision,

while PT Pertamina and Bank Indonesia provided pineapple fiber processing and weaving equipment. At the production level, Pertamina Gas (Pertagas) and the Prabumulih City Government also strengthened the capacity of the MIWA Cooperative by providing modern equipment and technical training. Informant AZ explained,

“We put the leaves into cutting machines and a decorticator to separate the leaf pulp from the fiber. We then process the coarse fiber into staple fiber, yarn, fabric, and handicrafts. Through the CSR program supported by Pertagas and the Prabumulih City Government, we received modern processing equipment and technical training that strengthened our production capacity” (Interview with AZ, June 18, 2025).

This finding demonstrates that linking social capital operates by expanding access to productive resources. Institutional relationships therefore extend beyond the provision of assistance because they strengthen the group’s ability to transform waste into products with higher economic value.

External support became empowering when farmers converted it into greater production capacity and more diversified livelihood sources. Access to processing technology enabled farmer groups to apply the zero-waste principle by transforming pineapple leaves into fiber, yarn, fabric, and handicrafts, thereby reducing households’ dependence on fresh pineapple sales. Informant AZ emphasized,

“The impact is very tangible. We apply the zero-waste principle. When extreme weather or market price fluctuations threaten the pineapple commodity, income from the pineapple leaf fiber ecosystem provides a safety net. Farmers no longer depend entirely on the fruit. This downstream processing also creates new employment opportunities for housewives living around the cooperative, particularly in sorting and weaving activities” (Interview with AZ, June 18, 2025).

This experience demonstrates that linking social capital not only expands access to technology but also enables farmer groups to convert external resources into product diversification, employment opportunities, and reduced dependence on a single income source. Therefore, the strategic value of institutional relationships lies in farmers’ ability to internalize external support and transform it into productive capacity that sustains their livelihoods.

The development of linking social capital extended beyond technology provision and gradually institutionalized capacity at the farmer-group level. Mentoring activities and regular meetings involving farmers, community leaders, village governments, agricultural extension officers, and relevant government agencies created coordination spaces where participants could align their interests, increase participation, and strengthen their sense of ownership over business development programs. A revolving resource-sharing system among members and groups also supported this mechanism by encouraging the collective and sustainable use of resources. Through this process, farmer groups performed three functions simultaneously: they served as learning spaces that increased knowledge and skills, cooperation spaces that coordinated collective action, and production units that developed businesses at a more organized scale. These findings demonstrate that relationships with external institutions generate empowerment when farmer groups can internalize external resources and knowledge into their organizational governance. Therefore, linking social capital does more than expand access to assistance; it strengthens organizational agency by enabling farmer groups to manage resources, make decisions, and sustain productive activities collectively.

Farmers experienced their relationships with government institutions in ambivalent ways. On the one hand, the Prabumulih City Government expanded farmers’ access to seed assistance, agricultural extension services, development programs, and facilities that strengthened production capacity. On the other hand, some farmers considered institutional procedures overly bureaucratic and complicated,

which prevented them from accessing formal support easily and equitably. These different experiences demonstrate that the mere presence of formal institutions does not automatically generate empowerment. The effectiveness of linking social capital depends on the quality of relationships between farmers and institutions, the accessibility of institutional procedures, and farmers' ability to obtain and utilize available resources. Therefore, vertical relationships can strengthen agency when institutions respond to farmers' needs, but excessive bureaucracy can weaken their empowering function by creating distance between formal resources and farmers' everyday experiences at the community level.

Universities occupied a more complex position because they simultaneously performed bridging and linking social capital functions. As knowledge-exchange networks, the involvement of IPB University, Sriwijaya University, Universitas Gadjah Mada, and Universitas Muhammadiyah Palembang expanded farmers' access to knowledge related to seedling production, fiber-processing technology, waste utilization, and digital marketing. However, as formal institutions that possess scientific authority, technology, and research resources, universities also performed a linking function by connecting farmers with resources beyond the community's own capacities. These relationships did not always operate without obstacles. Some farmers reported that academic knowledge did not fully correspond to their practical needs in the field and that they still had limited access to research institutions. These findings demonstrate that the boundary between bridging and linking social capital remains context-dependent because a single actor can perform different functions depending on the nature of the relationship and the resources exchanged. Ultimately, the effectiveness of these relationships depends on the ability of knowledge institutions to translate innovations into forms that correspond to farmers' livelihood needs and realities.

The value of *Seinggok Sepemunyian* also assumed a broader function when farmers converted internal solidarity into collective capacity for establishing relationships with external actors. Cohesion among farming actors enabled farmer groups to align their interests, coordinate pineapple leaf supplies through the MIWA Cooperative, and organize product processing and distribution more systematically. These conditions strengthened the groups' credibility among external partners and expanded opportunities for partnerships with the textile industry, companies through corporate social responsibility (CSR) and social and environmental responsibility (*tanggung jawab sosial dan lingkungan* [TJSL]) programs, and government institutions. The research data show that external actors considered organized groups with relatively little internal conflict better prepared to receive support. As a result, community cohesion developed into bargaining power that helped farmer groups obtain resources, technology, and market access. This finding demonstrates that bonding social capital not only functions as an internal safety net but also provides a social foundation for the development of bridging and linking social capital. Therefore, *Seinggok Sepemunyian* operates as a cultural mechanism that connects internal cohesion → organizational capacity → external trust → expanded resource access, allowing social capital to develop from a survival mechanism into a source of adaptive and transformative capacity.

To clarify the mechanisms of linking social capital, this study summarizes the findings according to the actors involved, the resources farmers accessed, the processes through which groups converted external support, and the implications for livelihood resilience. Table 1 shows that vertical relationships do not operate uniformly. Their benefits depend on farmer groups' ability to internalize external resources and transform them into production capacity, organizational governance, learning, and stronger bargaining power.

Table 1. Configurations of Linking Social Capital, Agency, and Livelihood Transformation among Pineapple Farmers

Relationship dimension	Main actors	Forms of access/support	Empowerment mechanism	Livelihood impacts	Livelihood resilience dimension
Access to production technology	Pertagas/Pertamina, PT PLN, Bank Indonesia, Prabumulih City Government	Processing machines/decorticators, weaving equipment, production equipment, technical training, and MSME assistance	Farmer groups convert external assistance into capacities for producing fiber, yarn, fabric, and handicrafts	Product diversification, reduced dependence on fresh fruit, and expanded employment opportunities	Agency and transformative capacity
Institutionalization of group capacity	Village governments, agricultural extension officers, relevant government agencies, community leaders, and farmer groups	Mentoring, regular meetings, coordination, and revolving systems among members/groups	Farmer groups internalize external resources into learning, cooperation, and production governance	Groups strengthen their capacity to manage resources and make collective decisions	Organizational agency
Access to government institutions	Prabumulih City Government and relevant government agencies	Seed assistance, agricultural extension services, programs, and facilities	Vertical relationships provide formal resources, but procedural accessibility influences their effectiveness	Support can strengthen farmers' capacities, while bureaucracy can limit its benefits	Conditional agency
Access to knowledge and technology	IPB University, Sriwijaya University, Universitas Gadjah Mada,	Knowledge of seedling production, fiber processing, waste utilization,	Universities operate at the boundary between	Learning and innovation increase when	Capacity for learning and adaptive capacity

	and Universitas Muhammadiyah Palembang	technology, and digital marketing	bridging and linking by facilitating knowledge transfer and access to scientific authority	farmers can translate knowledge into forms that correspond to local needs	
Market and external partner linkages	Textile industry, private companies/SOEs, and CSR/TJSL partners	Market access, partnerships, facilities, mentoring, and production resources	More credible farmer organization s gain broader partnership opportunities and resource access	Market diversification and a stronger economic position for farmer groups	Agency and transformative capacity
Cultural foundation of external relationships	<i>Seinggok Sepemunyan</i> , farmer groups, and the MIWA Cooperative	Cohesion, internal trust, supply coordination, and solidarity	Bonding social capital creates cohesive organization s that strengthen external actors' trust	Bargaining power increases and expands access to technology, markets, and external programs	Bonding → bridging → linking → livelihood resilience

Source: Research data, 2025; processed by the researchers.

Table 1 demonstrates that linking social capital does not operate through a one-way pattern of assistance from institutions to farmers. These relationships generate empowerment when farmer groups transform access to technology, knowledge, facilities, and institutional authority into capacities to manage production, make decisions, expand employment opportunities, and establish market networks. However, farmers' experiences with government institutions and knowledge institutions also reveal the limitations of vertical relationships when bureaucratic procedures or external knowledge do not correspond to farmers' needs. Most importantly, the findings demonstrate that the effectiveness of linking social capital rests on previously established internal cohesion. In this context, *Seinggok Sepemunyan* provides a cultural foundation that connects internal solidarity → organizational capacity → external trust → bargaining power → resource access. Through this process, bonding, bridging, and linking social capital form an integrated configuration that promotes livelihood transformation.

Overall, the findings demonstrate that bonding, bridging, and linking social capital do not operate as three separate mechanisms. Instead, they form a mutually reinforcing relational configuration that builds pineapple farmers' livelihood resilience. Bonding social capital, rooted in *Seinggok Sepemunyian*, trust, and reciprocity, generates cohesion and strengthens buffer capacity when farmers face pressures. This cohesion subsequently provides a foundation for bridging social capital through the MIWA Cooperative, farmer groups, women farmers' groups, agritourism, knowledge networks, and cross-group relationships that strengthen self-organization and the capacity for learning. Linking social capital then connects farmers with government institutions, SOEs, CSR/TJSL programs, and formal institutions, thereby expanding access to technology, resources, institutional authority, and markets that strengthen agency and transformative capacity. Therefore, farmers develop livelihood resilience through a sequential process: internal cohesion through bonding expands collectivity and learning through bridging, which subsequently opens access to resources and institutional power through linking. This configuration demonstrates that social capital functions not merely as a network of relationships but as a relational mechanism that moves farmers from coping capacity toward adaptive and transformative capacities.

DISCUSSION

The findings show that pineapple farmers in Prabumulih build livelihood resilience through a configuration of three mutually reinforcing relational mechanisms. Bonding social capital, which draws on *Seinggok Sepemunyian*, trust, and reciprocity, strengthens buffer capacity when households face livelihood pressures. Prabumulih's employment structure reflects these pressures: in 2022, the agricultural sector employed only 20.21% of the workforce, compared with 59.04% in the service sector and 20.74% in the manufacturing sector (Badan Pusat Statistik Kota Prabumulih, 2023). Bridging social capital, which operates through the MIWA Cooperative, women farmers' groups (KWT), agritourism, fiber processing, and knowledge networks, strengthens self-organization and the capacity for learning. The transformation of pineapple leaves from waste into fiber, yarn, fabric, and handicrafts provides women involved in processing activities with approximately IDR 800,000–1,000,000 in additional income, which enables households to allocate their income more adaptively. Meanwhile, linking social capital expands farmers' access to technology, institutions, and markets. These findings confirm that livelihood resilience does not emerge from a single form of social capital; instead, farmers develop it through a relational progression from coping capacity toward livelihood adaptation and transformation.

Kinship reciprocity strengthens buffer capacity because it operates when farming households cannot rely solely on their material resources to absorb livelihood pressures. Labor shortages, weak generational renewal, production uncertainty, and limited economic access increase farmers' dependence on informal support that they can mobilize quickly. In this context, *Seinggok Sepemunyian* functions as a cultural bonding mechanism that connects a shared identity with trust, a moral obligation to provide assistance, and expectations of reciprocity. This local value enables farmers to mobilize labor, planting materials, information, and other forms of assistance when they experience crop failure or production disruptions, thereby reducing pressure on their households. This pattern supports Speranza et al.'s (2014) framework, which conceptualizes buffer capacity as the ability of livelihoods to absorb disturbances. It also aligns with Saptutyningsih et al. (2020), who demonstrate the contribution of trust and social networks to farmers' adaptation in Indonesia, and with the conceptualization of social capital as a foundation for collective action (Szreter, 2004; Woolcock & Narayan, 2000). However, this study extends these explanations by demonstrating that buffer capacity depends not only on the presence of networks or social assets but also on cultural norms that activate these networks and transform them into tangible assistance.

Therefore, *Seinggok Sepemunyian* functions as a cultural mechanism of bonding that converts local solidarity into farmers' coping capacity.

Bridging social capital becomes particularly important when support from internal networks can no longer address farmers' limited access to markets, technology, capital, and information. Pineapple farmers in Prabumulih expand their networks through the MIWA Cooperative, women farmers' groups, agritourism, industry actors, and universities. These cross-group relationships facilitate knowledge exchange, production coordination, and value-added innovation. Farmers demonstrate this process by developing processed products, transforming pineapple leaves into fiber, yarn, and fabric, involving women in the value chain, and organizing material supplies and machinery through MIWA. University networks also expand farmers' access to knowledge related to seedling production, fiber-processing technology, waste management, and digital marketing. These findings align with Cofré-Bravo et al. (2019), who show that bridging relationships expand access to knowledge and innovation resources, as well as Arnott et al. (2021) and Azad and Pritchard (2023), who demonstrate that broader social networks strengthen adaptive capacity through complementary relationships. In the Indonesian context, these findings also support Saptutyningsih et al. (2020) regarding the role of social capital in farmers' adaptation. However, this study demonstrates that bridging does not end with access to knowledge. Instead, it operates through the mechanism of network expansion → knowledge exchange → collective organization → value-added innovation → livelihood diversification. Through this process, farmers translate external knowledge into collective adaptive decisions and new sources of economic value.

Linking social capital generates transformative capacity when farmer groups can convert vertical relationships into productive resources that they manage independently. Access to processing machinery, weaving equipment, training, mentoring, product licensing support, and CSR/TJSL programs enables farmers to develop products that previously exceeded the community's production capacity. This mechanism follows the process of institutional access → productive resources → organizational internalization → agency → livelihood transformation. These findings align with Tuna and Karantininis (2021), who conceptualize cooperatives as social capital hubs, and Manyise and Dentoni (2021), who demonstrate that value-chain partnerships can strengthen entrepreneurial learning and resilience. In the Indonesian context, these findings also support Isnaini et al. (2025), who show that formal and community-based support can perform different but complementary functions. However, the experiences of farmers in Prabumulih demonstrate that linking relationships do not automatically generate empowerment. Government procedures that farmers perceive as bureaucratic and academic knowledge that does not always correspond to practical field needs can limit the conversion of access into actual capacity. This finding reinforces Tanner et al.'s (2015) argument that resilience should encompass agency, empowerment, and transformative change. It also demonstrates that external assistance alone does not determine transformation; instead, farmer organizations must internalize external resources and convert them into independent and sustainable capacities.

The findings demonstrate that bonding, bridging, and linking social capital do not operate as three independent forms of social capital. Instead, they form a mutually reinforcing relational configuration that shapes pineapple farmers' livelihood resilience. *Seinggok Sepemunyian* cultivates trust and reciprocity that strengthen bonding social capital and buffer capacity. This cohesion then provides a foundation for bridging social capital through the MIWA Cooperative, women farmers' groups, agritourism, and knowledge networks, which expand self-organization and the capacity for learning. More cohesive organizations subsequently increase farmers' credibility and bargaining power, enabling them to develop linking social capital with government institutions, state-owned enterprises (SOEs), CSR/TJSL programs,

markets, and formal institutions, thereby strengthening agency and transformative capacity. This pattern extends Speranza et al.'s (2014) framework by demonstrating that buffer capacity, self-organization, and the capacity for learning have relational antecedents that emerge through configurations of social capital. The findings also reinforce Tanner et al.'s (2015) emphasis on agency and transformation, align with Azad and Pritchard's (2023) argument regarding the mutually reinforcing nature of bonding, bridging, and linking social capital, and respond to Carmen et al.'s (2022) call for greater attention to sociocultural dimensions in the relationship between social capital and resilience. Therefore, livelihood resilience does not merely represent a capacity that households possess; rather, farmers activate this capacity relationally through configurations of social capital rooted in local culture. Figure 4 visualizes these relationships.

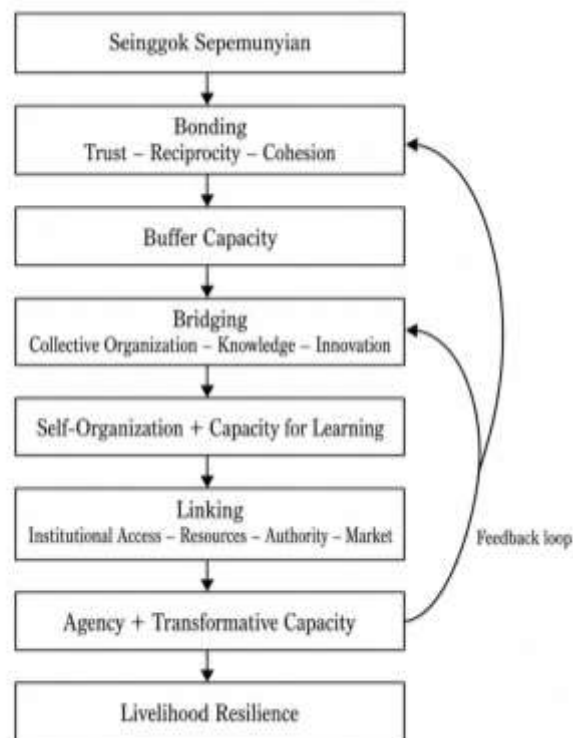


Figure 3. Relational Configuration Model of Social Capital in Building Pineapple Farmers' Livelihood Resilience

Source: Research data, 2025; authors' elaboration based on Speranza et al. (2014), Woolcock & Narayan (2000), and Tanner et al. (2015).

Figure 4 shows that pineapple farmers develop livelihood resilience through an interconnected and progressively evolving configuration of social capital. The process begins with *Seinggok Sepemunyian* as a local value that cultivates bonding social capital through trust, reciprocity, and social cohesion, thereby strengthening farmers' buffer capacity when they face livelihood pressures. This internal cohesion subsequently provides a foundation for bridging social capital through collective organization, knowledge exchange, and innovation, which strengthen self-organization and the capacity for learning. At the next stage, linking social capital expands farmers' relationships with institutions that possess resources,

authority, and market access, thereby strengthening agency and transformative capacity. The entire process ultimately contributes to farmers' livelihood resilience. The feedback arrow in the figure demonstrates that successful linking relationships do not represent the final stage of the process. Instead, the outcomes of these relationships can reinforce collective organization and social cohesion at the community level, allowing livelihood resilience to develop as a dynamic and iterative process.

The findings also demonstrate that social capital does not contribute to livelihood resilience in an inherently positive or linear manner. Within the bonding dimension, trust, reciprocity, and social proximity provide labor, information, and safety nets when farmers experience pressure. However, excessively inward-oriented networks can restrict access to market information, technology, and formal financing while maintaining farmers' dependence on intermediary actors. This phenomenon is consistent with King et al. (2019), who demonstrate that social capital has both "bright" and "dark" sides that can enable or constrain rural innovation, and Fletcher et al. (2020), who find that excessive dependence on informal networks can reproduce exclusion and constrain adaptation. Within the bridging dimension, expanded networks provide knowledge, innovation, and collective learning, but farmers receive fewer benefits when external knowledge does not correspond to their practical needs and experiences (Cofré-Bravo et al., 2019; Slijper et al., 2022). Meanwhile, linking social capital provides access to technology, facilities, markets, and policy support, but bureaucratic procedures, unequal access, and dependence on external assistance can constrain empowerment processes (Arnott et al., 2021; Chen et al., 2014; Isnani et al., 2025). Therefore, social capital does not automatically generate resilience. Its effectiveness depends on relationship quality, the distribution of access, organizational capacity, and the extent to which external resources correspond to local needs. Livelihood resilience should therefore be understood as a dynamic and context-dependent relational process that can generate both functional and dysfunctional outcomes.

The findings have practical implications for efforts to strengthen pineapple farmers' livelihood resilience because such efforts need to develop relational capacities rather than merely increase material assistance (Portes, 1998). The Prabumulih City Government and the Agriculture Office need to simplify access to development programs, strengthen market information and financing services, and develop farmer regeneration schemes for younger generations to address the weakening reproduction of the agricultural workforce. At the community level, the MIWA Cooperative, farmer groups, and women farmers' groups need to strengthen supply governance, transparency in benefit distribution, internal financing mechanisms, downstream product development, and the participation of women and younger generations in the pineapple value chain. Support from SOEs and CSR/TJSL programs also needs to shift from equipment-oriented assistance toward capacity transfer so that program success reflects the groups' ability to sustain production, manage technology, and access markets independently after external interventions end. Universities should also adopt co-creation and co-design approaches so that researchers and farmers can jointly develop innovations that correspond to local needs rather than transfer knowledge in a one-way process. Stakeholders can evaluate intervention effectiveness by examining increases in the proportion of household income derived from processed products, participation among women and young farmers, continuity of market contracts, financial independence of farmer groups, and ease of access to government services. Therefore, strengthening livelihood resilience requires more than asset accumulation or programmatic assistance. It requires a relational architecture that preserves local cohesion, expands cross-group learning, and converts institutional access into agency and livelihood autonomy. Future research should test the bonding → bridging → linking → livelihood resilience configuration comparatively and longitudinally across different farming communities and

agricultural commodities to assess the consistency, variation, and contextual boundaries of the model identified in Prabumulih.

CONCLUSION

This study demonstrates that pineapple farmers in Prabumulih build livelihood resilience through a mutually reinforcing relational configuration of social capital. Bonding social capital, rooted in *Seinggok Sepemunyian*, trust, and reciprocity, functions as a social safety net that strengthens buffer capacity when farmers face livelihood pressures. Bridging social capital, which operates through the MIWA Cooperative, women farmers' groups, agritourism, fiber processing, and knowledge networks, strengthens self-organization and the capacity for learning. Meanwhile, linking social capital, which develops through relationships with government institutions, state-owned enterprises (SOEs), CSR/TJSL programs, private companies, and knowledge institutions, expands access to technology, markets, resources, and institutional authority, thereby strengthening agency and transformative capacity. These three forms of social capital operate progressively from coping to adaptation and ultimately to transformation. Therefore, farmers' livelihood resilience results from the community's ability to activate internal social resources and connect them with cross-group networks and external institutions.

The scientific contribution of this study lies in advancing the understanding of livelihood resilience as a capacity with relational antecedents rather than merely a capacity embedded within individuals or households. This study integrates the bonding-bridging-linking social capital framework with the dimensions of buffer capacity, self-organization, and capacity for learning and demonstrates that these three forms of social capital operate configurationally and reinforce one another. Within this configuration, *Seinggok Sepemunyian* functions as a cultural mechanism of bonding that activates trust and reciprocity and subsequently develops through bridging and linking relationships toward learning, agency, and livelihood transformation. These findings extend the framework proposed by Speranza et al. (2014) by demonstrating that relational mechanisms shape the dimensions of resilience, while also reinforcing Tanner et al.'s (2015) emphasis on agency and transformative change. Methodologically, the interpretative phenomenological approach also contributes to the literature by explaining how farmers experience and interpret social capital in their everyday lives. Therefore, farmers' livelihood resilience does not merely represent a capacity that they possess; rather, it represents a capacity that they relationally activate through configurations of social capital rooted in local culture.

This study has several limitations that researchers should consider when interpreting the findings. The study's focus on pineapple farmers in Prabumulih provides an in-depth contextual understanding, but the study does not aim to produce statistical generalizations to other agrarian communities. In addition, the interpretative phenomenological approach captures farmers' experiences within a particular period and therefore does not explain longitudinal changes in bonding, bridging, and linking social capital. This study also did not quantitatively test the relationships between these three forms of social capital and the dimensions of livelihood resilience, nor did it evaluate the economic effects of downstream processing and institutional support through long-term data. Future studies should test the bonding → bridging → linking → livelihood resilience model across different commodities and agrarian regions by using longitudinal, comparative, or mixed-methods designs. Future research should also examine the roles of gender, younger generations, and power structures in shaping the distribution of benefits derived from social capital. Therefore, researchers need to test the contextual boundaries and temporal dynamics of this model to develop a livelihood resilience framework that is more comparative, measurable, and applicable to sustainable agricultural development.

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