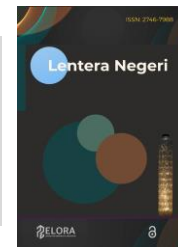




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Transforming the empowerment of rural poor and vulnerable farmers through collaborative governance

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ABSTRACT

This study explores the transformation of the empowerment of poor and vulnerable farmers through a collaborative governance approach in East Lombok Regency, West Nusa Tenggara. Farmer poverty in this region is driven not only by low income but also by structural constraints, including limited access to land, capital, technology, market information, weak farmer institutions, ecological pressures, and commodity price fluctuations. The study examined how collaborative governance strengthens farmers' socio-economic resilience and identified the factors facilitating and constraining its implementation. A descriptive qualitative design using purposive sampling involved 25 informants comprising poor farmers, farmer group leaders, agricultural extension officers, village officials, and community leaders. Data were collected from February to June 2024 through interviews, participant observation, and the analysis of regional regulations, official statistics, and institutional reports. Data were analyzed using Braun and Clarke's six-phase thematic analysis, while credibility was enhanced through source and method triangulation and member checking. The findings indicate that participants reported improved farming practices, livelihood diversification, market access, and stronger farmer organizations across rice, tobacco, horticultural, and garlic farming systems. However, persistent challenges included unequal stakeholder participation, fragmented cross-sectoral coordination, limited institutional capacity, and unequal partnership arrangements. These findings suggest that collaborative governance supports farmer empowerment, although its effectiveness depends on inclusive participation, adaptive coordination, and context-sensitive implementation rather than representing a direct causal determinant of improved welfare.



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Introduction

The poverty experienced by farmers reflects a complex phenomenon that extends beyond low income levels alone. It is closely associated with structural barriers, including limited access to production factors, restricted availability of market information, inadequate access to relevant agricultural technologies, and insufficient social protection. In East Lombok Regency, West Nusa Tenggara Province, these challenges are particularly pronounced, as the majority of the population relies on subsistence-based agricultural activities for their livelihoods. Farming operations are generally conducted on a small scale, characterized by limited land ownership and the continued use of traditional agricultural practices. According to the 2023 report of the West Nusa Tenggara Statistics Agency (BPS NTB), nearly all individuals categorized as living in extreme poverty in the region come from agricultural households in the broadest sense, encompassing food crops,

horticulture, plantations, and livestock subsectors. This reality indicates that the dominance of agriculture within the local economic structure does not automatically guarantee financial stability for those engaged in the sector. This condition reflects broader structural inequalities experienced by smallholder farmers in many developing countries, where limited access to productive assets, institutional support, and inclusive governance continues to hinder sustainable rural livelihoods (Béné et al., 2014; FAO, 2023; Khan et al., 2025; Scoones, 1998; Unicef, 2024; Yin et al., 2026).

Ideally, agricultural development should improve farmers' income, strengthen livelihood resilience, and reduce rural poverty through equitable access to productive resources and inclusive institutional support. However, recent studies indicate that structural inequalities in land ownership, market access, technological adoption, and institutional capacity continue to constrain poverty reduction among smallholder farmers in many developing countries, including Indonesia (Adam et al., 2022; Amrullah et al., 2026; Khan et al., 2025; Susandi et al., 2025). Although previous studies have examined agricultural poverty, farmer empowerment (Mwololo et al., 2022), and collaborative governance in agricultural development (Astuti et al., 2026; Dai & Azhar, 2024; Zhang et al., 2022), these studies have generally analyzed these issues separately. While these studies have provided important insights into farmer empowerment and institutional collaboration, limited empirical attention has been devoted to explaining how collaborative governance simultaneously strengthens the socio-economic resilience of poor and vulnerable farmers within local government contexts. Limited empirical attention has been devoted to explaining how collaborative governance mechanisms strengthen the socio-economic resilience of poor and vulnerable farmers within local government contexts. This gap provides the principal rationale for the present study. The collaborative governance perspective proposed by Ansell & Gash (2007) and further developed by Emerson et al. (2012) and Emerson & Nabatchi (2015) suggests that complex public problems, including rural poverty and farmer vulnerability, require institutional arrangements that facilitate shared decision-making, trust-building, and cross-sector collaboration (Berardo & Lubell, 2016; Bryson et al., 2015; Foli et al., 2025). However, empirical evidence explaining how these collaborative mechanisms operate to strengthen the resilience of poor and vulnerable farmers at the local government level remains limited.

In addition to these structural constraints, farmers in East Lombok face substantial ecological pressures, including increasingly severe climate change, environmental degradation such as soil deterioration, and heightened exposure to natural disasters. These conditions have not only significantly reduced agricultural productivity but have also reinforced farmers' entrapment in persistent cycles of poverty. Compounding these environmental pressures, other factors that deepen this vulnerability include low levels of formal education, limited access to business financing, slow adoption of technological innovations, and the weak capacity of farmer institutions to facilitate socio-economic transformation. Most farmers cultivate less than 0.5 hectares of land, while many work solely as agricultural laborers without land ownership. Such an agrarian structure creates conditions that are unfavorable for enhancing farmers' collective competitiveness and self-reliance.

In response to these complex and multidimensional challenges, development approaches can no longer rely solely on unilateral or top-down interventions. Collaborative governance, which emphasizes participatory and cooperative arrangements among government agencies, private-sector actors, civil society organizations, and local communities, has emerged as an alternative paradigm for strengthening the resilience of farming communities (Jamal & Gordon, 2024; Ran et al., 2025). Through this approach, stakeholders are encouraged to establish shared and inclusive development objectives, distribute roles and resources equitably, and foster sustainable cross-sectoral synergies to address both the structural and ecological challenges faced by farmers.

Within this context, resilience is understood as farmers' adaptive capacity to withstand and recover from various economic, social, and environmental pressures, whether gradual in nature, such as fluctuations in agricultural commodity prices, or sudden, such as losses caused by natural disasters. This understanding is consistent with the perspective of Reivich & Shatté, who define resilience as an individual's capacity to manage life's pressures constructively while maintaining balance and adaptive responses. Building strong farmer resilience requires coordinated structural support from local governments, agricultural extension agencies, farmer organizations, financial institutions, private agribusiness companies, and civil society organizations (Chu et al., 2023; Liu et al., 2023; Suomalainen et al., 2026). Such support includes improving access to agricultural credit, climate-smart farming technologies, market information systems, institutional capacity-building programs, and inclusive policy implementation capable of reducing farmers' structural vulnerabilities.

Nevertheless, the implementation of collaborative governance within the agricultural sector of East Lombok has yet to achieve optimal outcomes due to various institutional and structural constraints.

Fragmented coordination among government organizations, the limited capacity of farmer institutions as collaborative partners, inadequate human resources within local bureaucracies, and the predominance of directive policy approaches imposed from the central government to local administrations constitute significant challenges. Despite these institutional constraints, several collaborative initiatives have demonstrated encouraging progress. Despite these institutional constraints, several local initiatives, including community-based extension activities, farmer cooperative partnerships, and commodity development programs, suggest that collaborative governance has the potential to strengthen institutional coordination and farmer support. Nevertheless, these initiatives also reveal the need for more balanced stakeholder participation, stronger cross-sectoral coordination, and greater institutional capacity to achieve sustainable empowerment outcomes.

This study adopts a descriptive qualitative approach to explore the implementation of collaborative governance in strengthening the socio-economic resilience of poor and vulnerable farmers in East Lombok Regency. Specifically, this study aims (1) to explore the mechanisms through which collaborative governance facilitates farmer empowerment and resilience, (2) to identify the institutional, social, and economic factors that facilitate or constrain its implementation, and (3) to develop an empirically grounded understanding of stakeholder interactions in collaborative agricultural governance. These objectives are addressed using qualitative evidence obtained through interviews, participant observation, and document analysis.

The novelty of this study lies in integrating structural poverty, farmer resilience, and collaborative governance into a single analytical framework for explaining how multi-stakeholder interactions shape the empowerment of poor and vulnerable farmers at the local government level. Unlike previous studies that primarily focus on agricultural productivity or institutional performance separately, this research integrates structural poverty, farmer resilience, and collaborative governance into a single analytical framework. The findings are expected to inform more inclusive and evidence-based public policies supporting the implementation of East Lombok Regency Regulation Number 1 of 2021 on farmer protection and empowerment. Accordingly, collaborative governance is conceptualized not merely as an administrative arrangement but as an adaptive institutional framework capable of strengthening farmer resilience and promoting sustainable rural development.

Recent studies on collaborative governance have emphasized that effective farmer empowerment depends on inclusive stakeholder participation, balanced power relations, and adaptive institutional arrangements. However, previous research also indicates that collaborative processes frequently remain dominated by government actors, while local communities and supporting stakeholders, including NGOs, academics, and the media, have limited opportunities to participate in deliberative decision-making. This imbalance highlights the continuing need to strengthen more democratic and inclusive governance arrangements.

While M. Amin et al. (2023) examined cross-sectoral coordination using a quantitative approach, the present study extends this discussion by exploring collaborative governance from a descriptive qualitative perspective to better understand the mechanisms of farmer empowerment in East Lombok Regency. This perspective emphasizes that effective collaborative governance depends not only on institutional coordination but also on meaningful stakeholder participation throughout the decision-making process. Recent studies on agroecological governance similarly demonstrate that governance networks facilitate knowledge exchange, institutional learning, and coordinated innovation among multiple rural stakeholders (Gava et al., 2025). In this regard, participatory approaches have not yet been fully realized. This observation is consistent with the argument of Diah Ayuretnani et al. (2022), who contend that community engagement constitutes a key mechanism for reducing vulnerability, particularly in rural communities facing multiple socio-economic and environmental challenges. This finding is also consistent with Pretty (1995), who argues that participatory learning and local stakeholder involvement are fundamental for sustainable agricultural development.

Furthermore, the studies conducted by Diana Pramesti Listiaji (2019) and Dewi Cahyani Puspitasari et al. (2019) underscore the significance of individual capacity and inter-actor relationships in shaping social resilience. These studies suggest that the effectiveness of collaborative governance depends on local adaptive capacity, the utilization of technical knowledge, and institutional synergies operating across both horizontal and vertical dimensions.

From a theoretical perspective, collaborative governance serves as the primary analytical framework for this study. This governance model requires the active involvement of state actors, private-sector stakeholders, and civil society in collective, deliberative, and inclusive decision-making processes. These collaborative arrangements also reflect the principles of polycentric governance proposed by Ostrom (1990, 2009) and

further elaborated by Berardo and Lubell (2016). Recent studies further demonstrate that collective action among farmers becomes more effective when supported by institutional arrangements that strengthen trust, resource sharing, and coordinated decision-making within rural communities (Su et al., 2025). However, previous studies have shown that the principles of deliberation and equality are not always fully reflected in collaborative governance practices, indicating a persistent gap between theoretical expectations and institutional implementation.

The normative foundation of this study is rooted in the principles of modern governance, which emphasize the distribution of authority across multiple actors and levels of governance. The protection of farmers, as stipulated in East Lombok Regency Regulation No. 1 of 2021, provides an important legal basis for strengthening the position of farming communities as policy subjects rather than merely policy beneficiaries. Nevertheless, the implementation of this regulation continues to face several practical challenges, particularly regarding access to information, the organizational capacity of community groups, and the formal nature of existing dialogue mechanisms.

Based on the collaborative governance literature, social capacity, multi-stakeholder engagement, adaptive strategies, and regulatory support constitute key dimensions for strengthening the resilience of poor rural communities facing economic and ecological pressures. Together, these dimensions provide the conceptual foundation for examining farmer empowerment through collaborative governance in the present study. These dimensions provide the conceptual basis for analyzing how collaborative governance influences farmer empowerment and resilience, while supporting the development of more inclusive, adaptive, and sustainable agricultural governance. The framework is also compatible with sustainable livelihood thinking (Scoones, 1998) and adaptive governance approaches (Dey & Gupta, 2026).

Method

This study adopted a descriptive qualitative approach to explore in depth the social dynamics and collaborative governance practices involved in strengthening the resilience of poor farmers in East Lombok Regency. This approach was selected to gain a comprehensive understanding of social realities from the perspectives of the participants and to capture the local context holistically.

The research was conducted in East Lombok Regency from February to June 2024, a period deliberately chosen to coincide with the planting and harvesting seasons, which represent critical phases within the agricultural cycle. The study involved purposively selected informants, including poor farmers, leaders of farmer groups, relevant village officials, agricultural extension officers, and community leaders who possessed direct knowledge of the conditions and challenges faced by farming communities and who were directly involved in agricultural development and collaborative governance practices within the study area.

Data collection was carried out using three primary methods. First, semi-structured in-depth interviews were employed to explore farmers' experiences and strategies in coping with vulnerability and strengthening their resilience. Second, participant observation was conducted to capture social interactions and agricultural practices embedded in farmers' daily lives. Third, document analysis was utilized to obtain secondary information from various official sources, including statistical data, regional regulations, and institutional reports. These three complementary methods enabled the researcher to obtain a comprehensive understanding of the research phenomenon from multiple sources of evidence.

Data analysis was performed using thematic analysis. The analytical process consisted of several stages, including data familiarization through repeated reading of interview transcripts and field notes, coding of meaningful information units, grouping codes into broader themes, reviewing relationships among themes, and interpreting the findings in accordance with the research objectives and the collaborative governance framework. The themes were developed inductively from the empirical data to capture recurring patterns related to farmer resilience and multi-stakeholder collaboration.

Data validity was strengthened through methodological triangulation by comparing evidence obtained from interviews, participant observations, and document analysis. The consistency of interpretations was continuously reviewed throughout the analytical process to ensure that the identified themes accurately reflected the empirical evidence collected during the fieldwork. Where appropriate, member checking was undertaken through follow-up clarification with key informants to confirm that the interpretation of the findings remained consistent with their experiences and perspectives.

Through a systematic methodological design and the application of established qualitative research procedures, this study is expected to generate findings that are accurate, credible, and relevant to the context of strengthening the resilience of poor farmers through multi-stakeholder collaboration within the study area.

Results and Discussions

Overview of Empirical Findings

The thematic analysis identified five interrelated themes describing the transformation of farmer empowerment through collaborative governance in East Lombok Regency. These themes comprise: (1) collaborative governance for strengthening regional food security; (2) empowerment among rice farmers; (3) empowerment among tobacco farmers; (4) empowerment among maize farmers; and (5) empowerment among garlic farmers. Collectively, the findings demonstrate that collaborative governance strengthens farmer resilience by integrating institutional coordination, stakeholder participation, and access to productive resources. Rather than functioning as isolated agricultural interventions, these governance arrangements connect government agencies, farmer organizations, extension services, financial institutions, private-sector actors, and local communities in addressing structural constraints affecting agricultural development.

Table 1 summarizes the principal empirical findings and their implications for collaborative governance, while Figure 1 illustrates the analytical relationships among collaborative governance, farmer empowerment, farmer resilience, and regional food security.

Table 1. Summary of Empirical Findings on Collaborative Governance and Farmer Empowerment in East Lombok Regency

Theme	Empirical Findings	Supporting Evidence	Collaborative Governance Implications
Regional Food Security	Food security is strengthened through structural and cultural collaborative approaches involving government institutions, extension services, and local communities.	Interviews with government officials and agricultural extension officers; regional policy documents; PPH and NTP indicators.	Multi-level institutional coordination improves food security while community participation supports long-term resilience.
Rice Farmers	Farmer resilience is influenced by irrigation, fertilizer distribution, institutional collaboration, and bargaining power within agricultural markets.	Interviews with farmer group leaders and extension officers; Farmer Exchange Rate (NTP); local regulations.	Effective collaboration improves access to productive resources and strengthens institutional support for farmers.
Tobacco Farmers	Partnership arrangements improve market access but simultaneously create structural dependence and unequal bargaining positions.	Interviews with tobacco farmers; PIR partnership system; production and income data.	Government mediation and transparent partnership regulations are required to ensure equitable collaboration.
Maize Farmers	Institutional support, technological innovation, and crop diversification strengthen farmers' adaptive capacity.	Interviews with agricultural extension officers; intercropping practices; government development programs.	Collaboration among government agencies, extension services, and farmer organizations enhances productivity and resilience.
Garlic Farmers	Financial accessibility, livelihood	Interviews with farmers and local stakeholders;	Integrated collaboration linking agriculture,

Theme	Empirical Findings	Supporting Evidence	Collaborative Governance Implications
	diversification, institutional support, and disaster recovery programs collectively strengthen resilience.	agricultural and post-earthquake recovery programs.	finance, disaster management, and rural development strengthens long-term community resilience.

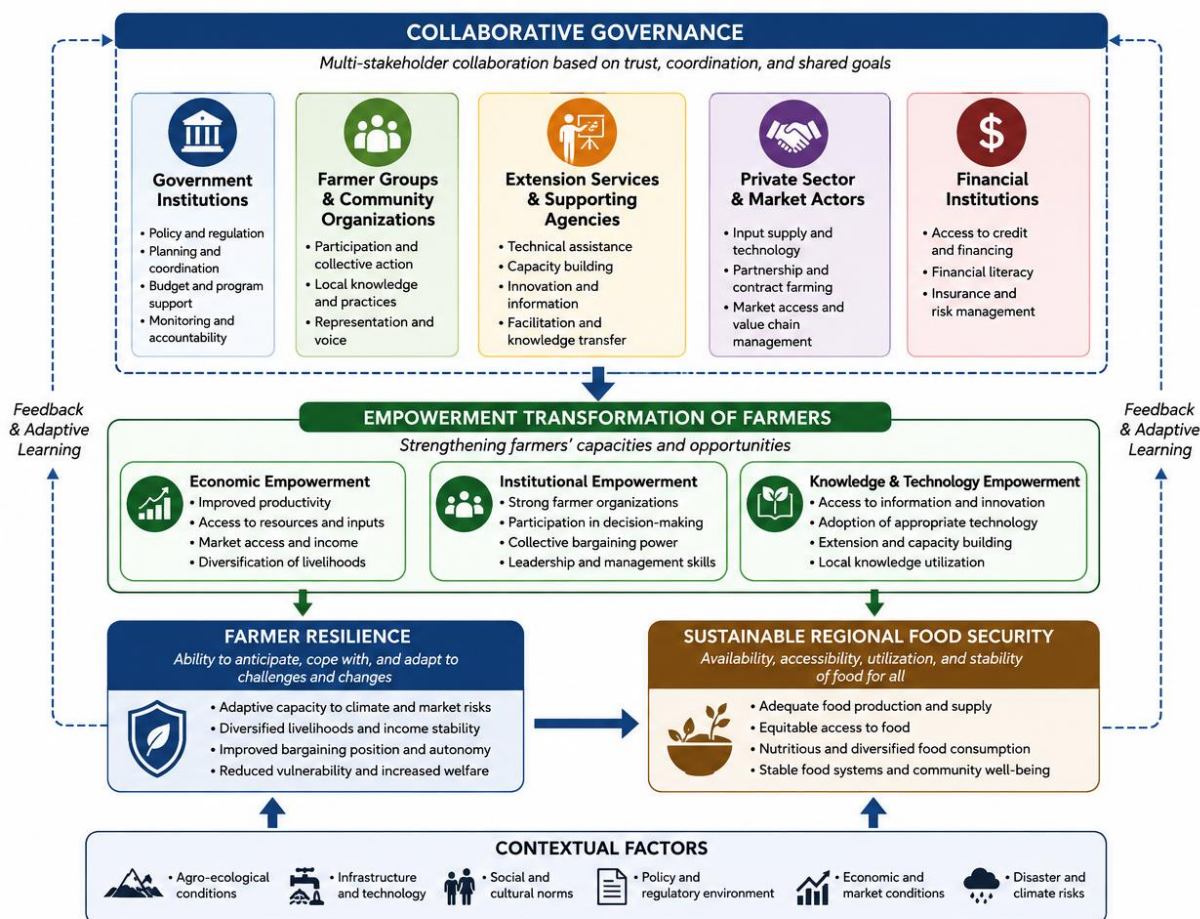


Figure 1. Analytical Framework of Empowerment Transformation through Collaborative Governance

Empowerment Transformation through Collaborative Governance for Regional Food Security

The findings indicate that regional food security in East Lombok is strengthened through two complementary governance strategies: structural collaboration, emphasizing institutional coordination and policy integration, and cultural collaboration, promoting community participation and local food diversification. Interview data and documentary evidence consistently show that these approaches reinforce one another in improving both food security and farmer resilience.

These findings are consistent with recent evidence showing that food security governance increasingly depends on collaborative institutional arrangements integrating government agencies, local communities, and agricultural organizations rather than relying solely on production-oriented policies (Bulkis et al., 2026).

Although East Lombok is one of the major food-producing regions in West Nusa Tenggara Province, participants consistently emphasized that production surpluses alone do not guarantee household food security. Three interconnected challenges emerged repeatedly during interviews: unequal food distribution, continued dependence on rice as the dominant staple food, and relatively low Farmer Exchange Rates (NTP)

across several agricultural subsectors. These findings indicate that food security is influenced not only by agricultural production but also by institutional effectiveness and farmers' socio-economic conditions.

Documentary evidence demonstrates that the regional government has strengthened collaborative governance through several institutional initiatives, including the establishment of Food Self-Reliant Villages (Desa Mandiri Pangan), implementation of the Regional Food and Nutrition Action Plan, formation of the Regional Food Diversification Acceleration Team, and reactivation of the Regional Food Security Council. These programmes illustrate how food security policies are implemented through coordinated interaction among government agencies, village administrations, agricultural extension services, and local communities rather than through isolated institutional action.

Participants further emphasized that policy continuity and institutional commitment determine the effectiveness of these collaborative arrangements. Government officials highlighted sustained efforts to improve agricultural production, strengthen food distribution systems, and promote local food diversification, while agricultural extension officers viewed the development of priority commodities—including maize, cattle, and seaweed—as an integrated strategy for improving household food security and rural livelihoods.

The findings also reveal that collaborative governance extends beyond formal institutional coordination by encouraging community participation. Programmes such as the Sustainable Food House Area (Kawasan Rumah Pangan Lestari—KRPL) combine government support with local knowledge to strengthen household food production and diversify food consumption. Similarly, food education programmes implemented through schools encourage greater acceptance of local food commodities and gradually reduce dependence on rice. Participants regarded these initiatives as essential because sustainable food security depends not only on institutional capacity but also on behavioural change within local communities.

Supporting documentary evidence indicates gradual improvement in regional food security indicators. The Desirable Dietary Pattern (PPH) score in West Nusa Tenggara increased from 73.4 in 2020 to 76.7 in 2021 and reached 78.7 in 2023. Nevertheless, participants acknowledged that rice remains the dominant staple food, indicating that food diversification continues to represent a significant policy challenge.

Overall, the findings demonstrate that collaborative governance strengthens regional food security by integrating institutional coordination, community participation, and policy continuity. Rather than focusing solely on increasing food production, collaborative governance addresses structural constraints affecting food accessibility, household welfare, and farmer resilience. This finding is consistent with Isnania et al. (2026), who argue that sustainable food security requires the integration of agricultural land protection policies with farmers' willingness to participate actively in policy implementation and local agricultural governance. These findings reinforce collaborative governance theory by demonstrating that sustainable food security depends on coordinated interaction among multiple stakeholders while highlighting the continuing challenges posed by unequal economic conditions and limited dietary diversification. Similar governance challenges have also been identified in community food systems facing institutional fragmentation and structural inequities (Dring et al., 2026).

Empowerment Transformation through Collaborative Governance among Rice Farmers

Interview findings identified three interrelated dimensions shaping the empowerment of rice farmers in East Lombok Regency: access to productive resources, institutional collaboration, and farmers' bargaining capacity within agricultural markets. These dimensions demonstrate that collaborative governance strengthens farmer resilience not merely through increased agricultural production but also through improved institutional support and more equitable access to agricultural resources.

Participants consistently emphasized that differences in agricultural productivity are closely associated with unequal access to irrigation systems and subsidized production inputs. Similar patterns have been identified among Indonesian smallholder rice farmers (Abdullah, 2026). Although East Lombok benefits from relatively abundant water resources originating from Mount Rinjani, farmers cultivating technically irrigated land generally experience higher and more stable production than those relying on rainfed agriculture. Consequently, irrigation availability alone was not perceived as sufficient to improve farmer welfare unless accompanied by effective institutional management. This finding is consistent with Li et al. (2026), who argue that the effectiveness of irrigation systems depends not only on physical infrastructure but also on institutional rules, collective governance arrangements, and stakeholder coordination that shape water management performance.

Access to subsidized fertilizer emerged as one of the most frequently discussed issues during interviews. Ruslan, Head of the Kutaraja Farmer Group (Interview, 5 March 2024), explained that adequate water availability cannot ensure satisfactory harvests when fertilizer distribution is delayed or uneven. Participants similarly reported that shortages, delayed distribution, and unequal allocation of subsidized fertilizers reduce production efficiency and increase production costs. These findings indicate that fertilizer distribution represents not merely an input-management issue but also an institutional coordination challenge requiring effective collaboration among government agencies, extension officers, and farmer organizations.

Economic resilience was further reflected in the Farmer Exchange Rate (NTP), which participants regarded as an important indicator of household welfare. Farmers explained that fluctuations in commodity prices, rising production costs, and dependence on external production inputs reduce purchasing power, particularly among tenant farmers and agricultural labourers with limited productive assets. These observations are consistent with previous studies reporting that low NTP values remain closely associated with persistent rural poverty and limited improvements in farmer welfare.

Beyond agricultural inputs, participants identified several structural constraints limiting farmer empowerment, including unequal land ownership, dependence on commercially supplied seed varieties, and limited bargaining power within agricultural markets. Rather than functioning independently, these factors interact to reduce farmers' capacity to make autonomous production decisions and increase vulnerability to market fluctuations. Consequently, participants viewed farmer empowerment as requiring institutional reforms that strengthen farmers' access to productive resources while improving their negotiating position within agricultural value chains.

The findings further demonstrate that collaborative governance provides an institutional mechanism for addressing these interconnected challenges. Government agencies, agricultural extension officers, farmer groups, cooperatives, village-owned enterprises (BUMDes), financial institutions, and agricultural input suppliers were each perceived as performing complementary roles. Extension officers facilitate technology transfer and agricultural learning, farmer organizations strengthen collective action, financial institutions improve access to production capital, and local governments provide regulatory support and agricultural assistance. Participants emphasized that these complementary functions become effective only when accompanied by continuous communication, transparent coordination, and active farmer participation.

From a governance perspective, the findings illustrate a gradual transition from conventional production-oriented agricultural policies towards collaborative governance emphasizing institutional accountability, shared responsibility, and participatory decision-making. Although regional regulations provide an important legal foundation for agricultural protection and food security, participants consistently argued that policy effectiveness depends primarily on implementation quality and sustained collaboration among stakeholders rather than on regulatory frameworks alone.

Overall, the findings demonstrate that the empowerment of rice farmers is a multidimensional process integrating economic, institutional, and social dimensions of rural development. Collaborative governance strengthens farmer resilience by improving access to productive resources, reinforcing institutional cooperation, and expanding opportunities for farmers to participate in agricultural decision-making. These findings extend collaborative governance literature by demonstrating that sustainable farmer empowerment depends not only on government intervention but also on the quality of interaction among institutions, communities, and supporting organizations.

Empowerment Transformation through Collaborative Governance among Tobacco Farmers

The findings reveal that the empowerment of tobacco farmers in East Lombok Regency is shaped by the interaction of three interrelated governance dimensions: partnership arrangements between farmers and private companies, government regulatory intervention, and the institutional capacity of farmer organizations. These dimensions demonstrate that collaborative governance influences farmer resilience not only by facilitating agricultural production but also by addressing structural inequalities within the tobacco value chain.

Participants consistently described tobacco as one of the most economically valuable commodities supporting household livelihoods in East Lombok. Beyond generating income, tobacco cultivation contributes to improvements in education, housing conditions, and household welfare. Nevertheless, interview findings indicate that these economic benefits are accompanied by institutional vulnerabilities arising from unequal relationships between farmers and private companies.

The principal issue identified during interviews concerns the implementation of the Perusahaan Inti Rakyat (PIR) partnership scheme. Participants acknowledged that the partnership system provides important advantages, including access to production inputs, technical assistance, and guaranteed market access. However, they also emphasized that private companies retain substantial control over product grading, pricing mechanisms, input distribution, and production cost deductions. Consequently, farmers possess limited bargaining power in determining the economic value of their harvests despite their central role in the production process.

These findings indicate that the existing partnership model simultaneously creates opportunities and structural dependence. This finding is comparable to the governance dynamics discussed by Fernandez-Vidal & Alarcon (2026) concerning institutional power relations in regenerative agriculture. While contractual arrangements reduce marketing uncertainty, they also increase farmers' reliance on private companies and limit their autonomy in production and marketing decisions. This pattern is consistent with previous studies highlighting unequal agrarian relationships as an important source of persistent rural vulnerability.

Participants further explained that environmental uncertainty reinforces these institutional challenges. Variations in rainfall, declining water availability, and increasing production costs frequently reduce production stability and household income, particularly in rainfed agricultural areas. These findings demonstrate that farmer vulnerability is shaped not only by market mechanisms but also by the interaction between ecological conditions and institutional arrangements governing agricultural production.

Documentary evidence indicates that tobacco farming continues to generate relatively high economic returns in East Lombok. Nevertheless, participants consistently argued that production performance does not necessarily translate into sustainable household welfare because profitability remains highly dependent on fluctuating production costs, contractual pricing mechanisms, and company-determined quality standards. Consequently, economic performance alone cannot be considered an adequate indicator of farmer resilience.

The findings further demonstrate that collaborative governance plays a critical role in reducing these structural constraints. Participants emphasized that local governments should function not only as regulators but also as facilitators capable of promoting equitable partnerships, supervising contractual arrangements, strengthening farmer organizations, and improving transparency throughout the tobacco value chain. Farmer groups were similarly regarded as important institutions for strengthening collective bargaining, facilitating communication with government agencies, and expanding farmers' participation in agricultural decision-making.

From a collaborative governance perspective, these findings illustrate that effective empowerment depends on the quality of institutional relationships rather than on the presence of multiple stakeholders alone. Government agencies, private companies, farmer organizations, agricultural extension services, and financial institutions each perform complementary roles; however, collaborative governance becomes effective only when these relationships are characterized by transparency, accountability, shared responsibility, and balanced decision-making authority.

Overall, the findings demonstrate that collaborative governance functions as an institutional mechanism for reducing structural inequality within tobacco agribusiness. Rather than merely coordinating stakeholders, collaborative governance strengthens farmer resilience by improving institutional participation, expanding collective bargaining capacity, and promoting more equitable partnerships between farming communities and private companies. These findings extend previous studies that primarily examine tobacco farming from economic and production perspectives by demonstrating that governance quality constitutes a fundamental determinant of long-term farmer empowerment and rural resilience.

Empowerment Transformation through Collaborative Governance among Maize Farmers

The findings indicate that collaborative governance has strengthened the adaptive capacity of maize farmers through coordinated institutional support involving local governments, agricultural extension services, farmer organizations, and private-sector partnerships. Rather than focusing solely on production growth, these collaborative arrangements improve farmers' resilience by facilitating access to technology, agricultural innovation, diversified livelihoods, and market opportunities.

Participants consistently identified maize as one of the most important commodities supporting agricultural diversification in East Lombok Regency. Compared with rice farming, maize cultivation offers greater flexibility under dryland conditions while creating additional income opportunities for rural households. Nevertheless, interview findings indicate that the expansion of maize production depends not

only on favourable agroecological conditions but also on effective institutional support capable of reducing production risks.

Government interventions emerged as an important component of this collaborative governance system. Participants explained that agricultural extension officers facilitate the dissemination of improved maize varieties, promote more efficient cultivation practices, and support the development of water management infrastructure, including reservoirs and micro-irrigation systems. These initiatives reduce production uncertainty while improving farmers' capacity to respond to increasingly variable climatic conditions.

The findings further demonstrate that farmer organizations perform a strategic role in strengthening institutional learning and collective action. Participants emphasized that regular interaction among farmer groups, extension officers, and local government agencies facilitates knowledge exchange, improves access to agricultural inputs, and accelerates the adoption of technological innovations. Consequently, collaborative governance contributes not only to improving agricultural productivity but also to strengthening institutional capacity at the community level.

Agricultural diversification also emerged as a major resilience strategy. Participants reported adopting intercropping systems involving soybeans and peanuts following rice harvests to increase land productivity while reducing dependence on a single commodity. Documentary evidence further indicates that partnerships with food-processing industries provide relatively stable market access for several secondary crops, thereby reducing farmers' exposure to market fluctuations. These findings demonstrate that diversification functions simultaneously as an economic strategy and a governance mechanism that enhances household resilience.

Despite these positive developments, participants identified several continuing challenges, including price volatility, plant diseases, limited post-harvest management, and unequal market access. These constraints indicate that technological innovation alone is insufficient to improve long-term farmer welfare unless supported by stronger institutional coordination and more inclusive market governance.

Overall, the findings demonstrate that collaborative governance has transformed maize farming from a predominantly production-oriented activity into a more adaptive and institutionally supported agricultural system. By integrating government agencies, agricultural extension services, farmer organizations, and private-sector actors, collaborative governance strengthens farmers' capacity to respond to environmental uncertainty while expanding economic opportunities through innovation, diversification, and improved market access. These findings reinforce the argument that farmer resilience depends not only on technological advancement but also on the quality of collaboration among institutions supporting rural development.

Empowerment Transformation through Collaborative Governance among Garlic Farmers

The findings indicate that the empowerment of garlic farmers in the Sembalun Highlands is shaped by the interaction of institutional support, financial accessibility, livelihood diversification, and disaster recovery initiatives. Rather than focusing exclusively on increasing agricultural production, collaborative governance strengthens farmer resilience by integrating agricultural development with rural finance, community empowerment, and post-disaster recovery programmes.

Participants consistently identified limited production capital as one of the principal constraints restricting the expansion of garlic cultivation despite the region's favourable agroecological conditions. Although Sembalun possesses substantial potential for garlic production, many farmers remain unable to optimise available land because of inadequate access to agricultural financing. These findings suggest that financial accessibility represents a critical institutional component of farmer empowerment rather than merely an economic issue.

Government intervention emerged as an important mechanism for reducing these structural constraints. Participants explained that local governments support garlic farming through the dissemination of improved seed varieties, continuous agricultural extension, institutional strengthening of farmer groups, and facilitation of agricultural financing. These initiatives illustrate that collaborative governance combines technical assistance with institutional capacity building, enabling farmers to improve both production performance and adaptive capacity.

The findings further demonstrate that livelihood diversification has become an important resilience strategy among garlic-farming households. Participants reported complementing garlic cultivation with strawberry farming, ecotourism activities, and other community-based enterprises to reduce dependence on

a single agricultural commodity. Diversification was consistently perceived as improving household income stability while increasing farmers' capacity to respond to market uncertainty and environmental risks.

Another important finding concerns the role of collaborative governance in post-disaster recovery following the 2018 Lombok earthquake. Participants explained that recovery programmes implemented jointly by local governments, community organisations, and development partners extended beyond infrastructure reconstruction to include agricultural assistance, economic recovery, institutional strengthening, and community empowerment. These coordinated interventions accelerated livelihood recovery while reinforcing cooperation among stakeholders involved in rural development.

Participants also highlighted the contribution of complementary social protection programmes, including village fund assistance, educational support, and microfinance initiatives. Rather than operating independently, these programmes interact with agricultural development policies to reduce household vulnerability and strengthen long-term community resilience. The findings therefore demonstrate that sustainable farmer empowerment requires integrated interventions extending beyond the agricultural sector alone.

Overall, the findings indicate that collaborative governance has transformed garlic farming into a more resilient and institutionally supported rural livelihood system. Government agencies, village administrations, financial institutions, agricultural extension services, and local communities collectively contribute to strengthening farmers' adaptive capacity through coordinated interventions that integrate agricultural production, financial inclusion, disaster resilience, and local economic development. These findings extend collaborative governance literature by demonstrating that farmer resilience emerges from the interaction of multiple institutional systems rather than from agricultural policies operating in isolation.

Cross-theme Synthesis of Collaborative Governance and Farmer Empowerment

Across the five empirical themes, the findings consistently demonstrate that collaborative governance functions as an integrated empowerment mechanism rather than a collection of sector-specific agricultural interventions. Although each commodity is characterised by distinct institutional, economic, and environmental challenges, farmer resilience is consistently strengthened through coordinated interaction among government agencies, agricultural extension services, farmer organizations, private-sector actors, financial institutions, village administrations, and local communities.

The analysis indicates that the transformation of farmer empowerment follows a common governance pattern across all agricultural sectors. In the regional food security programme, collaborative governance strengthens institutional coordination and community participation to improve food accessibility and policy implementation. Among rice farmers, collaboration primarily improves access to productive resources, institutional support, and agricultural decision-making. Tobacco farmers demonstrate that collaborative governance is equally important in reducing structural inequalities embedded within partnership arrangements, thereby strengthening farmers' bargaining capacity. For maize and garlic farmers, collaborative governance expands adaptive capacity by promoting technological innovation, livelihood diversification, financial inclusion, and integrated disaster recovery. Although these interventions differ according to commodity characteristics, they collectively pursue the same objective: strengthening long-term farmer resilience through institutional collaboration.

A key finding emerging from this study is that farmer empowerment cannot be explained solely by improvements in agricultural production or household income. Instead, empowerment results from the interaction between institutional coordination, equitable resource distribution, stakeholder participation, and farmers' capacity to adapt to environmental, economic, and market uncertainties. These dimensions reinforce one another, indicating that collaborative governance operates as a dynamic institutional system rather than as a series of independent development programmes.

The findings also extend collaborative governance theory by demonstrating that governance quality influences empowerment through multiple institutional pathways. Effective collaboration depends not only on the participation of multiple stakeholders but also on the quality of communication, transparency, accountability, shared responsibility, and balanced decision-making among participating institutions. Consequently, collaborative governance should be understood as an adaptive governance process capable of responding simultaneously to structural poverty, agricultural vulnerability, and rural development challenges.

Figure 1 illustrates this analytical relationship by positioning collaborative governance as the institutional foundation linking stakeholder collaboration, farmer empowerment, adaptive capacity, and regional food

security. The framework developed in this study demonstrates that institutional collaboration strengthens farmer resilience by improving access to productive resources, facilitating knowledge exchange, supporting livelihood diversification, and promoting more inclusive governance arrangements. These interconnected processes ultimately contribute to sustainable rural development by integrating economic, social, institutional, and environmental dimensions of empowerment.

Taken together, the findings demonstrate that collaborative governance is not merely a mechanism for coordinating development programmes but a transformative governance approach capable of strengthening farmer resilience through institutional integration and shared responsibility. This integrated perspective represents the principal contribution of the present study by providing a broader understanding of how collaborative governance supports empowerment transformation across multiple agricultural sectors within a single regional governance system.

Policy and Practical Implications

The findings of this study provide several practical implications for strengthening collaborative governance in agricultural development. First, farmer empowerment programmes should move beyond production-oriented interventions by integrating institutional coordination, farmer participation, financial accessibility, and market governance into a unified development strategy. The findings demonstrate that sustainable farmer resilience cannot be achieved through isolated sectoral policies but requires continuous collaboration among government agencies, agricultural extension services, farmer organizations, financial institutions, private-sector actors, and local communities.

Second, local governments should strengthen institutional mechanisms that promote transparent communication, shared decision-making, and accountability among stakeholders involved in agricultural development. Particular attention should be given to improving access to productive resources, ensuring equitable partnership arrangements, strengthening farmer organizations, and expanding agricultural financing, especially for smallholder farmers facing structural constraints.

Third, the study highlights the importance of adopting adaptive governance approaches that integrate agricultural development with livelihood diversification, disaster risk reduction, and community-based rural development. Such integration enables farming households to respond more effectively to economic uncertainty, environmental change, and market fluctuations while enhancing long-term community resilience.

Finally, the analytical framework developed in this study may serve as a reference for policymakers and development practitioners seeking to design collaborative governance strategies for rural development in regions facing similar socio-economic and institutional challenges. Although the empirical findings are grounded in the context of East Lombok Regency, the governance principles identified in this study offer analytical insights that may inform farmer empowerment policies in comparable agricultural regions.

Conclusions

This study demonstrates that collaborative governance has played an important role in transforming farmer empowerment and strengthening regional food security in East Lombok Regency. The thematic analysis identified five interconnected empirical themes showing that collaborative governance contributes to farmer resilience through institutional coordination, stakeholder participation, improved access to productive resources, livelihood diversification, and strengthened farmer organizations. These findings indicate that farmer empowerment extends beyond increasing agricultural productivity to encompass institutional capacity, adaptive governance, and collaborative decision-making among multiple stakeholders. The study directly addresses its research objectives by demonstrating how collaborative governance operates across different agricultural sectors and identifying the institutional factors that influence its effectiveness. While each commodity exhibits distinct socio-economic and environmental characteristics, the findings consistently show that effective collaboration depends on transparent communication, shared responsibility, policy continuity, and equitable participation among government agencies, agricultural extension services, farmer organizations, financial institutions, private-sector actors, and local communities. The principal contribution of this study lies in extending collaborative governance literature by demonstrating that farmer empowerment is a multidimensional governance process rather than a production-oriented intervention. The analytical framework developed in this study shows that collaborative governance strengthens farmer resilience through the interaction of institutional collaboration, community participation, and adaptive capacity, ultimately contributing to sustainable regional food security. Practically, the findings suggest that

future agricultural policies should prioritize integrated governance approaches that strengthen institutional coordination, improve access to productive resources and agricultural finance, reinforce farmer organizations, and promote inclusive stakeholder participation. Such collaborative arrangements are expected to enhance the sustainability of farmer empowerment while improving the effectiveness of regional food security policies in East Lombok Regency and other regions with similar agricultural and institutional contexts.

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References

- Abdullah, S. (2026). Rural community empowerment: strengthening the capacity of rice farmers based on cyber extension in Konda District South Konawe Regency. *Frontiers in Sustainable Food Systems*, 10, 1742508. <https://doi.org/10.3389/fsufs.2026.1742508>
- Adam, L., Jin, J., & Khan, A. (2022). Does the Indonesian farmer empowerment policy enhance the professional farmer? Empirical evidence based on the difference-in-difference approach. *Technology in Society*, 68, 101924. <https://doi.org/10.1016/j.techsoc.2022.101924>
- Amrullah, E. R., Pullaila, A., & Giamerti, Y. (2026). Land ownership and agricultural performance: evidence from smallholder rice farmers in Banten, Indonesia. *Journal of Agribusiness in Developing and Emerging Economies*, 1–20. <https://doi.org/10.1108/JADEE-07-2025-0306>
- Ansell, C., & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18, 543–571. <https://doi.org/10.1093/jopart/mum032>
- Astuti, S. J. W., Panglipursari, D. L., Murdani, M. H., Diyanto, A. K., & Putra, B. T. (2026). Collaborative governance for food security policy in Indonesia: Lessons for achieving the SDGs in Asia-Pacific. *Development Studies Research*, 13(1), 2674596. <https://doi.org/10.1080/21665095.2026.2674596>
- Béné, C., Newsham, A., Davies, M., Ulrichs, M., & Godfrey-Wood, R. (2014). Resilience, poverty and development. *Journal of International Development*, 26(5), 598–623. <https://doi.org/10.1002/jid.2992>
- Berardo, R., & Lubell, M. (2016). Understanding What Shapes a Polycentric Governance System. *Public Administration Review*, 76, n/a–n/a. <https://doi.org/10.1111/puar.12532>
- Bryson, J., Crosby, B., & Stone, M. (2015). Designing and Implementing Cross-Sector Collaborations: Needed and Challenging. *Public Administration Review*, 75. <https://doi.org/10.1111/puar.12432>
- Bulkis, S., Agussabti, A., Nugroho, A., Puspita S, A., Mudatsir, R., & Summase, I. (2026). Institutional Framework for Improving Food Security in Crisis-Prone Areas in Indonesia. *Journal of Agriculture and Food Research*, 27, 102774. <https://doi.org/10.1016/j.jafr.2026.102774>
- Chu, V., Lam, W. F., & Williams, J. (2023). Building robustness for rural revitalization: A social-ecological system perspective. *Journal of Rural Studies*, 101, 103042. <https://doi.org/10.1016/j.jrurstud.2023.103042>
- Dai, J., & Azhar, A. (2024). Collaborative governance in disaster management and sustainable development. *Public Administration and Development*, 44, 358–380. <https://doi.org/10.1002/pad.2071>
- Dey, K., & Gupta, K. B. (2026). Small wins through adaptation governance: Vulnerability, producer organizations, and climate-smart interventions. *Journal of Rural Studies*, 123, 104067. <https://doi.org/10.1016/j.jrurstud.2026.104067>
- Dring, C., Issac, J., Hemphill, M., & Newell, R. (2026). Diagnosing community food system governance: jurisdictional complexity, structural constraints, and rural food system inequities in Western Canada. *Frontiers in Sustainable Food Systems*, 10. <https://doi.org/10.3389/fsufs.2026.1858885>

- Emerson, K., & Nabatchi, T. (2015). *Collaborative Governance Regimes*. Georgetown University Press. <https://books.google.co.id/books?id=3E1gCwAAQBAJ>
- Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29. <https://doi.org/10.1093/jopart/mur011>
- FAO. (2023). The State of Food and Agriculture 2023—Revealing the true cost of food to transform agrifood systems. Rome.
- Fernandez-Vidal, J., & Alarcon, S. (2026). Beyond metrics: Corporate governance and the reordering of rural power in regenerative agriculture. *Journal of Rural Studies*, 123, 104081. <https://doi.org/10.1016/j.jrurstud.2026.104081>
- Foli, R., Ohemeng, F., & Kpessa-Whyte, M. (2025). Collaborative governance in social protection programs in developing countries: evidence from Ghana. *Policy and Society*, 45, 328–342. <https://doi.org/10.1093/polsoc/puaf020>
- Gava, O., Vanni, F., Schwarz, G., Guisepelli, E., Vincent, A., Prazan, J., Weissshaidinger, R., Frick, R., Hrabalova, A., & Carolus, J. (2025). Governance networks for agroecology transitions in rural Europe. *Journal of Rural Studies*, 114, 103482. <https://doi.org/10.1016/j.jrurstud.2024.103482>
- Isnania, Y., Afandhi, A., Hanani, N., Kurniaty, R., & Tiarantika, R. (2026). Synergizing Policies and Farmers' Willingness in Arable Land Protection for Food Security in East Java Indonesia. *Research on World Agricultural Economy*, 509–528. <https://doi.org/10.36956/rwae.v7i1.1646>
- Jamal, A., & Gordon, R. (2024). Grappling with governance: Emerging approaches to build community economies. *Journal of Rural Studies*, 107, 103242. <https://doi.org/10.1016/j.jrurstud.2024.103242>
- Khan, M., Behrendt, K., Papadas, D., Arnold, L., & Sultana, A. (2025). From inequalities to inclusion: Sustainable development for smallholders. *Sustainable Development*, 33, 1520–1536. <https://doi.org/10.1002/sd.70073>
- Li, L., Dries, L., & Zhu, Y. (2026). Unlocking success: The impact of institutional rules on governance performance in Chinese farmland irrigation systems. *Journal of Rural Studies*, 126, 104305. <https://doi.org/10.1016/j.jrurstud.2026.104305>
- Liu, L., Ross, H., & Ariyawardana, A. (2023). Building rural resilience through agri-food value chains and community interactions: A vegetable case study in wuhan, China. *Journal of Rural Studies*, 101, 103047. <https://doi.org/10.1016/j.jrurstud.2023.103047>
- Mwololo, H., Nzuma, J., & Githinji, L. (2022). Determinants of farmer empowerment in agriculture in Kenya: A Tobit approach. *Heliyon*, 8, e11888. <https://doi.org/10.1016/j.heliyon.2022.e11888>
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press. <https://books.google.co.id/books?id=4xg6oUobMz4C>
- Ostrom, E. (2009). *Understanding Institutional Diversity*. Princeton University Press. https://books.google.co.id/books?id=k_C4-7HERnsC
- Pretty, J. (1995). Participatory Learning for Sustainable Agriculture. *World Development*, 23, 1247–1263. [https://doi.org/10.1016/0305-750X\(95\)00046-F](https://doi.org/10.1016/0305-750X(95)00046-F)
- Ran, C., Rui, P., Songtang, L., & Hongxia, L. (2025). Gap reduction and collaborative empowerment: How can farmland protection policies be effectively implemented? Based on the case study of Y County, China. *Review of Policy Research*, 42(2), 393–422. <https://doi.org/10.1111/ropr.70002>
- Scoones, I. (1998). Sustainable Rural Livelihoods. A Framework for Analysis. IDS Working Paper 72. *Institute of Development Studies, University of Sussex*.
- Su, Y., Huang, Q., Shu, Q., Wang, Y., & Qi, X. (2025). Mechanism of land trusteeship promoting farmers' collective action: A study based on social–ecological systems framework. *Journal of Rural Studies*, 116, 103622. <https://doi.org/10.1016/j.jrurstud.2025.103622>
- Suomalainen, M., Salonen, H., & Pyysiäinen, J. (2026). Enacting rural community resilience: An agency theoretical perspective on an emerging local food community. *Journal of Rural Studies*, 124, 104197. <https://doi.org/10.1016/j.jrurstud.2026.104197>
- Susandi, D., Andayani, S., Fitriyani, R., & Fithri, A. (2025). Strategies for Reducing Inequality in Agricultural Value Chains: A Systematic Review on Smallholder Participation in Developing Countries. *International Journal of Design & Nature and Ecodynamics*, 20, 1103–1115. <https://doi.org/10.18280/ij dne.200515>
- Unicef. (2024). *The state of food security and nutrition in the world 2024*.
- Yin, X., Zheng, B., Wang, C., Li, X., & Wang, W. (2026). Can land tenure reform strengthen smallholder livelihood resilience? Micro-level evidence from rural China. *Journal of Rural Studies*, 125, 104215. <https://doi.org/10.1016/j.jrurstud.2026.104215>
- Zhang, Q., Ye, C., & Duan, J. (2022). Multi-dimensional superposition: Rural collaborative governance in



Liushe village, Suzhou city. *Journal of Rural Studies*, 96, 141–153.
<https://doi.org/10.1016/j.jrurstud.2022.10.002>