

Social Capital and Farmer Organizations in Agriculture: Insights from a Literature Review

Natal Basuki

Department of Agribusiness, Faculty of Agriculture, Universitas Khairun, Ternate, 97719, Indonesia.

email: natalbasuki@unkhair.ac.id

Abstract. Social capital has increasingly been recognized as a critical factor influencing the performance and sustainability of farmer organizations in the agricultural sector. This study aims to provide a comprehensive literature review on the role of social capital in shaping organizational outcomes, with particular attention to its dimensions, mechanisms, and implications for agricultural development. Using a structured literature review approach based on the Scopus database, a total of 16 peer-reviewed articles were identified through a Boolean search strategy: ("social capital") AND (agriculture OR farming OR agribusiness) AND ("farmer organization"). The selected studies were analyzed using a thematic synthesis method to identify recurring patterns and key insights. The findings reveal that social capital—encompassing trust, networks, and shared norms—plays a significant role in enhancing knowledge dissemination, strengthening collective action, improving market access, and fostering climate adaptation among farmers. The review further identifies key mechanisms through which social capital operates, including facilitating information exchange, reducing transaction costs, and promoting collaboration within and across farmer organizations. Despite these contributions, the literature remains fragmented, with limited integration of different dimensions of social capital and a predominance of context-specific and cross-sectional studies. This study highlights important research gaps, including the need for longitudinal and comparative studies, deeper exploration of the interactions between social capital and other forms of capital, and greater attention to emerging factors such as digitalization and institutional innovation. Overall, the review contributes to advancing theoretical understanding and provides practical implications for policymakers and practitioners aiming to strengthen farmer organizations and promote sustainable agricultural development.

Keywords: social capital; farmer organizations; agriculture; collective action.

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1. Introduction

Agriculture remains a fundamental sector in many developing and emerging economies, serving as a primary source of livelihood, food security, and rural development. Despite its importance, the agricultural sector continues to face persistent challenges, including limited access to markets, information asymmetry, resource constraints, and institutional inefficiencies[1], [2]. In this context, collective action through farmer organizations has been widely recognized as a strategic mechanism to enhance farmers' bargaining power, improve access to inputs and markets, and facilitate knowledge sharing. Farmer organizations such as cooperatives, associations, and producer groups play a crucial role in strengthening agricultural systems by enabling coordination among smallholder farmers[1], [3], [4]. However, the effectiveness and sustainability of these organizations vary significantly across contexts. While some farmer organizations successfully improve productivity and income, others struggle with issues such as weak governance, low participation, and lack of trust among members[5], [6]. These variations suggest that beyond structural and economic factors, social dimensions are equally critical in shaping organizational outcomes.

One of the key social dimensions influencing the performance of farmer organizations is social capital. Broadly defined, social capital refers to the networks, norms, and trust that facilitate coordination and cooperation for mutual benefit[7],[8], [9]. It encompasses multiple dimensions, including bonding social capital (within-group ties), bridging social capital (connections across different groups), and linking social capital (relationships with

institutions and authorities). In agricultural settings, social capital has been associated with improved information exchange, collective decision-making, resource mobilization, and resilience to external shocks[10]. A growing body of literature highlights the importance of social capital in enhancing the functionality and impact of farmer organizations. High levels of trust and strong social networks can foster cooperation, reduce transaction costs, and mitigate collective action problems. Conversely, weak social capital may lead to opportunistic behavior, free-riding, and organizational fragmentation[11], [12]. Despite the increasing scholarly attention, existing studies are often fragmented, context-specific, and vary in conceptualization and measurement of social capital, making it difficult to draw generalized conclusions.

Moreover, the interaction between different dimensions of social capital and organizational performance remains underexplored. For instance, while bonding social capital may strengthen internal cohesion, it may also limit external linkages and innovation. Similarly, bridging and linking social capital can open access to new opportunities but may require institutional support and governance capacity. Understanding these dynamics is essential for designing effective policies and interventions aimed at strengthening farmer organizations. Given these gaps, this article aims to provide a comprehensive literature review on the role of social capital in farmer organizations within the agricultural sector. Specifically, it seeks to (1) synthesize existing theoretical and empirical studies, (2) identify key dimensions and mechanisms through which social capital influences organizational outcomes, and (3) highlight research gaps and future directions. By offering an integrative perspective, this review contributes to a deeper understanding of how social capital can be leveraged to enhance the performance and sustainability of farmer organizations in diverse agricultural contexts.

2. Method

This study employs a qualitative literature review approach to synthesize and critically examine existing research on the role of social capital in farmer organizations within the agricultural sector. Rather than adopting a systematic literature review (SLR) protocol with rigid procedures, this study utilizes a structured and transparent narrative review design that enables in-depth interpretation while maintaining methodological rigor. The approach is intended to integrate and interpret prior findings, identify thematic patterns, and highlight gaps in the literature. The literature search was conducted exclusively using the Scopus database, which is widely recognized as one of the most comprehensive and reputable indexing platforms for peer-reviewed international publications. The use of a single, high-quality database ensures consistency, reliability, and academic credibility of the selected sources. A Boolean search strategy was applied to identify relevant studies, using the following search string: ("social capital") AND (agriculture OR farming OR agribusiness) AND ("farmer organization"). This search query was specifically designed to capture scholarly works that address the intersection of social capital and collective farmer institutions in agricultural contexts.

The search process yielded a total of 16 documents that met the predefined inclusion criteria. The inclusion criteria were defined as follows: (1) articles published in peer-reviewed journals indexed in Scopus, (2) studies that explicitly examine social capital as a primary or significant analytical variable, (3) research situated within agriculture, farming, or agribusiness contexts, and (4) studies focusing on farmer organizations, including cooperatives, farmer groups, or producer associations. Articles that only mentioned social capital superficially, as well as non-article publications such as conference proceedings, book chapters, and reports, were excluded to ensure the quality and relevance of the dataset. All identified documents were subsequently subjected to a full-text review to assess their eligibility and relevance. During this process, key information from each article was systematically extracted, including research objectives, theoretical perspectives, methodological approaches, empirical contexts, and principal findings. The extraction process was conducted manually to allow for contextual sensitivity and deeper analytical engagement with the content of each study.

The analysis was carried out using a thematic synthesis approach. The selected studies were coded and categorized based on recurring themes, particularly focusing on dimensions of social capital (bonding, bridging, and linking), collective action mechanisms, organizational performance, and institutional interactions. Through this process, the study identifies common patterns, divergences, and emerging insights across the literature. Additionally, the review adopts an integrative perspective by connecting empirical evidence with theoretical constructs to provide a comprehensive understanding of how social capital shapes the effectiveness and sustainability of farmer organizations. To ensure the robustness of the review, transparency is maintained in the search strategy, selection criteria, and analytical procedures. Although the number of documents is limited to 16,

the focus on Scopus-indexed journal articles ensures a high standard of academic quality and relevance. This methodological approach provides a solid foundation for advancing conceptual discussions and guiding future research on social capital and farmer organizations in agricultural systems.

3. Results and Discussion

The temporal distribution of publications provides an overview of the evolution of scholarly attention on social capital and farmer organizations in agriculture. An analysis of the selected Scopus-indexed articles reveals fluctuations in research output over time, reflecting the changing level of academic interest in this topic. Understanding these trends is important to identify periods of growing attention as well as potential gaps in the literature.

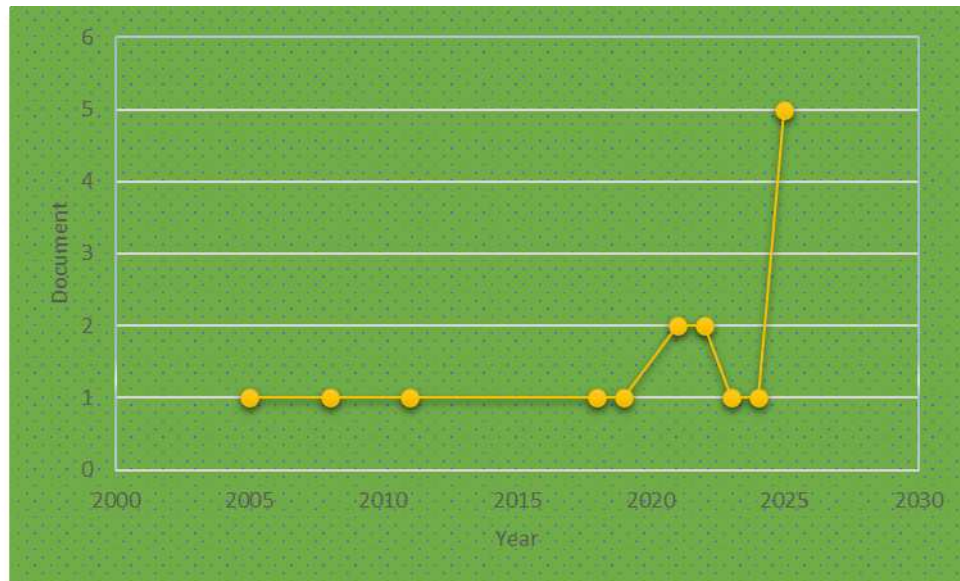


Figure 1. Trends in publications on social capital and farmer organizations in agriculture

As illustrated in Figure 1, the development of research on social capital and farmer organizations has been relatively sporadic over the past two decades. Early contributions emerged between 2005 and 2011, with a limited but steady number of publications. A gradual increase can be observed from 2018 to 2022, indicating a growing recognition of the importance of social capital in agricultural systems. Notably, a significant surge occurred in 2025, with five publications, representing the highest level of scholarly output within the observed period. This sharp increase suggests a renewed and expanding interest in the topic, potentially driven by the rising importance of collective action, institutional collaboration, and sustainable agricultural development. Despite this recent growth, the overall number of studies remains relatively limited, highlighting the need for further research to deepen and broaden understanding in this field.

Table 1. Summary of Previous Studies and Citation Impact on Social Capital and Farmer Organizations in Agriculture

No.	Authors	Year	Title	Source Title	Citations
1	Hailu et al.	2025	The impact of knowledge utilization networks on transformational farming practices: evidence from the Central Oromia Region, Ethiopia	Agricultural and Food Economics	0
2	Chang et al.	2008	Duck egg production in the Philippines: Results from a farm survey	Philippine Journal of Veterinary Medicine	1
3	Ton	2025	Methodological bricolage, data pattern detection and realist explanation: A portfolio analysis of inclusive business support	Evaluation	0

No.	Authors	Year	Title	Source Title	Citations
4	Tripp	2005	The performance of low external input technology in agricultural development: A summary of three case studies	International Journal of Agricultural Sustainability	16
5	Kusumastuti et al.	2023	The effects of social capital in farmers' organizations in irrigation fixed-weir system operations for sustainable water resources management	IOP Conference Series: Earth and Environmental Science	2
6	Wulandari et al.	2022	Agricultural innovation system development to support environmental management implementation in coffee smallholder plantation	IOP Conference Series: Earth and Environmental Science	5
7	Montoeli	2022	Factors influencing farmers' participation in fish production in Lesotho	Journal of Agricultural Extension	3
8	Alimirzaei & Asady	2011	Individual factors affecting farmers' motivation to participate in date growers' organizations in Khuzestan	Research Journal of Applied Sciences, Engineering and Technology	4
9	Mathanda et al.	2025	Does social capital influence the intensity of conservation agriculture adoption among smallholder farmers in Malawi?	Environmental and Sustainability Indicators	4
10	Nelson et al.	2019	Farmer research networks as a strategy for matching diverse options and contexts in smallholder agriculture	Experimental Agriculture	32
11	Taylor & Stice	2025	How membership of a farmer organization can support farmers in adapting to climate change in the Pacific Island region	Climate Change Reviews: 2022–2024	0
12	Mary & Stice	2024	How membership of a farmer organization can support farmers in adapting to climate change in the Pacific Island region	CAB Reviews	3
13	Aku et al.	2018	Effect of market access provided by farmer organizations on smallholder vegetable farmer's income in Tanzania	Cogent Food and Agriculture	43
14	Hausmann et al.	2021	Tackling key issues for smallholder farmers: The farmer research network (FRN) approach	Sorghum in the 21st Century	3
15	Rantlo et al.	2021	Determinants of formal and informal markets choice among smallholder farmers in Berea and Maseru tomato markets	African Journal of Business and Economic Research	1
16	Prayitno et al.	2025	The role of social and human capital on climate change adaptation in agricultural activities in Indonesia	Environmental Challenges	1

Table 1 presents a summary of previous studies on social capital and farmer organizations in agriculture, along with their citation impact. Overall, the findings indicate a heterogeneous distribution of scholarly influence, suggesting variations in both the maturity of research topics and their academic recognition within the field. A small number of studies demonstrate relatively high citation impact, indicating their strong influence on subsequent research. In particular, Aku et al.[13] emerges as the most highly cited study with 43 citations, highlighting the significant academic attention given to the role of farmer organizations in improving market access and farmer income. Similarly, Nelson et al.[14], with 32 citations, underscores the importance of farmer research networks as an adaptive strategy in smallholder agriculture. Tripp[15], with 16 citations, also represents a foundational contribution, suggesting that earlier studies on agricultural development and low-input

technologies continue to shape contemporary discussions. These highly cited works tend to focus on practical and policy-relevant issues, such as market access, innovation systems, and adaptive strategies, which likely contribute to their broader academic and practical relevance.

In contrast, the majority of recent studies—particularly those published between 2023 and 2025—show relatively low citation counts, with several articles receiving zero citations. This pattern is expected given the limited time since publication, which restricts their opportunity to be cited. For example, studies by Hailu et al.[16], Ton[17], and Taylor and Stice[18] have not yet accumulated citations, despite addressing important themes such as knowledge networks, methodological approaches, and climate change adaptation. This suggests that these studies represent emerging areas of inquiry that have not yet fully diffused within the academic community. Moderately cited studies, such as Wulandari et al.[19], Alimirzaei and Asady[20], and Mathanda et al.[21], indicate a growing but still limited scholarly engagement. These works primarily explore behavioral, institutional, and environmental dimensions of farmer participation and innovation, reflecting an expanding scope of research beyond traditional economic analyses. Meanwhile, studies with low citation counts (e.g., Chang et al.,[22]; Rantlo et al.,[23]; Prayitno et al.,[24]) may reflect either niche research contexts or limited dissemination within the broader academic discourse. From a thematic perspective, the reveals that highly cited studies tend to emphasize tangible outcomes such as income improvement, market access, and innovation diffusion, whereas more recent studies increasingly incorporate broader dimensions such as social capital, climate change adaptation, and sustainability. This shift indicates an evolving research agenda that integrates socio-institutional factors into agricultural development discussions. The citation analysis highlights a field that is both evolving and expanding. While a few seminal studies continue to exert strong influence, newer contributions are beginning to explore more complex and interdisciplinary dimensions of social capital and farmer organizations. However, the relatively low citation impact of many recent studies suggests the need for further empirical validation, theoretical integration, and broader dissemination to strengthen their contribution to the academic literature.

Table 2. Summary of Key Findings from Studies on Social Capital and Farmer Organizations in Agriculture

No.	Authors	Year	Key Findings
1	Hailu et al.[16]	2025	Knowledge utilization through extension services, cooperatives, and social capital positively influences transformational farming practices, both directly and indirectly through training and field demonstrations.
2	Chang et al.[22]	2008	Limited access to technical knowledge, capital, and extension services constrains productivity; strengthening extension systems and farmer organizations is critical to improving outcomes.
3	Ton[17]	2025	Organizational social capital plays a key role in enhancing inclusive business models, with effectiveness depending on context-specific configurations and support mechanisms.
4	Tripp[15]	2005	Low external input technologies contribute to productivity but have limited impact on strengthening social and human capital without institutional support.
5	Kusumastuti et al.[25]	2023	Trust, local wisdom, and strong leadership within farmer organizations are critical for effective irrigation management and sustainable water resource governance.
6	Wulandari et al.[19]	2022	Weak development of social capital and farmer networks limits adoption of environmental management practices; strengthening innovation systems is essential.
7	Montoeli[26]	2022	Social capital enhances participation in fish farming, although institutional and cultural factors may constrain farmer organization membership and engagement.
8	Alimirzaei & Asady[20]	2011	Education, extension participation, and farming experience significantly influence farmers' motivation to participate in farmer organizations.
9	Mathanda et al.[21]	2025	Social capital elements such as group membership and leadership relationships positively influence the adoption of conservation agriculture practices.
10	Nelson et al.[14]	2019	Farmer Research Networks (FRNs) enhance innovation, learning, and adaptation through strong social capital and collaborative knowledge exchange.
11	Taylor & Stice[18]	2025	Farmer organization membership provides a platform for building adaptive capacity to climate change through social capital, knowledge sharing, and institutional support.
12	Mary & Stice[27]	2024	Social capital, trust, and collective learning within farmer organizations strengthen climate adaptation and resilience in agricultural systems.

No.	Authors	Year	Key Findings
13	Aku et al.[13]	2018	Market access facilitated by farmer organizations significantly increases farmer income and reduces transaction costs.
14	Hausmann et al.[28]	2021	Farmer Research Network approaches integrate social capital and knowledge systems, enhancing participatory research and sustainable agricultural development.
15	Rantlo et al.[23]	2021	Social capital influences participation in informal markets, while farmer organization membership and market access factors drive participation in formal markets.
16	Prayitno et al.[24]	2025	Social and human capital significantly shape farmers' climate adaptation strategies, with trust, norms, networks, and education as key determinants.

Table 2 synthesizes the key findings from prior studies on social capital and farmer organizations in agriculture, revealing a coherent yet evolving body of knowledge that integrates both theoretical and empirical perspectives. Overall, the literature consistently demonstrates that social capital is a critical enabling factor that enhances the effectiveness, performance, and sustainability of farmer organizations across diverse agricultural contexts. From a theoretical standpoint, the reviewed studies collectively affirm that social capital operates through multiple dimensions—commonly conceptualized as trust, norms, and networks—which facilitate coordination and collective action among farmers. Empirical evidence across the studies supports this framework. For instance, Kusumastuti et al.[25] and Mary and Stice[27] highlight the centrality of trust and shared norms in strengthening cooperation and governance within farmer organizations, particularly in resource management and climate adaptation contexts. Similarly, Nelson et al.[14] and Hausmann et al.[28] emphasize the role of network-based collaboration in fostering knowledge exchange and innovation, reinforcing the idea that social capital is embedded within relational structures that enable learning and adaptive capacity.

The mechanisms through which social capital influences organizational outcomes can be categorized into several interrelated pathways. First, social capital enhances knowledge dissemination and learning processes. Studies such as Hailu et al.[16] and Wulandari et al.[19] demonstrate that social networks and linkages with extension systems significantly improve access to agricultural knowledge, which in turn drives the adoption of improved farming practices. Second, social capital strengthens collective action and participation. Evidence from Montoeli[26] and Alimirzaei and Asady[20] indicates that social ties, combined with individual capacities such as education and experience, increase farmers' motivation and engagement in farmer organizations. Third, social capital facilitates access to markets and economic opportunities. Aku et al.[13] and Rantlo et al.[23] show that farmer organizations, supported by strong social networks, reduce transaction costs and improve market participation, leading to higher incomes. Fourth, social capital contributes to resilience and adaptation, particularly in the context of climate change. Studies by Taylor and Stice[18] and Prayitno et al.[24] highlight how trust, communication, and collective learning enable farmers to respond more effectively to environmental uncertainties. Despite these contributions, the literature also reveals several important gaps. One notable limitation is the fragmented nature of empirical findings, with many studies focusing on specific contexts, commodities, or regions, thereby limiting generalizability. Additionally, while the positive effects of social capital are widely documented, fewer studies critically examine its potential downsides, such as exclusion, elite capture, or the reinforcement of existing inequalities. Another gap lies in the limited integration of different dimensions of social capital—bonding, bridging, and linking—within a unified analytical framework. Many studies tend to focus on one dimension in isolation, without fully exploring their interactions and trade-offs.

Furthermore, methodological limitations persist. Most studies rely on cross-sectional data, which constrains the ability to capture dynamic changes in social capital and organizational performance over time. There is also a lack of mixed-method and longitudinal approaches that could provide deeper insights into causal mechanisms. In addition, the role of digital technologies and evolving institutional arrangements in shaping social capital within farmer organizations remains underexplored, despite their increasing relevance in modern agricultural systems. Future research should therefore aim to adopt more integrative and comparative approaches that examine multiple dimensions of social capital simultaneously across different contexts. Longitudinal studies are needed to better understand how social capital evolves and influences organizational outcomes over time. Moreover, greater attention should be given to the interplay between social capital and other forms of capital, such as human, financial, and technological capital. Finally, exploring the role of digital platforms, governance structures, and policy interventions in strengthening inclusive and equitable forms of social capital represents a promising direction for advancing both theory and practice in this field.

4. Conclusion

This literature review provides a comprehensive synthesis of existing theoretical and empirical studies on the role of social capital in farmer organizations within the agricultural sector. The findings consistently

demonstrate that social capital—manifested through trust, social networks, and shared norms—plays a pivotal role in enhancing the effectiveness, resilience, and sustainability of farmer organizations. Across diverse contexts, social capital facilitates knowledge exchange, strengthens collective action, improves market access, and supports the adoption of innovative and climate-resilient agricultural practices. The review further highlights that the influence of social capital operates through multiple interconnected mechanisms. It enhances information flows and learning processes, reinforces cooperation and participation among farmers, reduces transaction costs in market interactions, and builds adaptive capacity in the face of environmental and economic uncertainties. These findings confirm that farmer organizations function not merely as economic entities but as socially embedded institutions whose performance is strongly shaped by relational and institutional dynamics.

However, despite the growing body of literature, several limitations remain. Existing studies are often context-specific and fragmented, with limited integration of the different dimensions of social capital—bonding, bridging, and linking—into a unified analytical framework. Methodologically, the dominance of cross-sectional approaches restricts the ability to capture the dynamic evolution of social capital and its long-term impact on organizational outcomes. Moreover, relatively little attention has been given to potential negative aspects of social capital, such as exclusionary practices or unequal power relations within farmer organizations. In light of these gaps, future research should prioritize more integrative and longitudinal approaches that examine the interactions between various forms of social capital and other critical resources, including human, financial, and technological capital. Comparative studies across regions and agricultural systems are also needed to enhance the generalizability of findings. Furthermore, increasing attention should be directed toward the role of digital technologies, institutional innovation, and policy frameworks in shaping and strengthening inclusive forms of social capital. This review underscores that social capital is a fundamental driver of farmer organization performance and agricultural development. Strengthening social capital through targeted policies, capacity-building initiatives, and institutional support can significantly contribute to more inclusive, resilient, and sustainable agricultural systems.

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