

Breaking the Silos: How Institutional Fragmentation Undermines Urban Food Security Governance in Indonesia

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ARTICLE INFO

Article history:

Received Oct 04, 2025

Revised Nov 03, 2025

Accepted Dec 20, 2025

Available online Jan 05, 2026

Keywords:

Institutional fragmentation,
Urban food security,
Governance coordination,
Multi-stakeholder networks,
Indonesia

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ABSTRACT

Urban food security in Indonesia faces complex challenges due to rapid urbanization, limited local production capacity, and fragmented policy implementation. Effective coordination among multiple stakeholders through network governance becomes critical for sustainable urban food systems. This study analyzes the dynamics of network governance in implementing urban food security policies in Indonesia, focusing on coordination mechanisms, stakeholder interactions, and factors influencing policy effectiveness. This qualitative research employed a case study approach with in-depth interviews, document analysis, and observations. Data were collected from government agencies, non-governmental organizations, farmers, and community representatives. Thematic analysis was used to identify coordination patterns and governance challenges. The findings reveal three main governance challenges: institutional fragmentation across multiple agencies with overlapping mandates, limited coordination mechanisms resulting in policy implementation gaps, and power asymmetry among stakeholders affecting collaborative decision-making. Government agencies tend to operate in silos, while civil society and private sector engagement remains minimal. Trust deficits and inadequate information-sharing mechanisms

hinder effective network coordination. Strengthening urban food security requires transitioning from hierarchical governance toward more collaborative network arrangements. Policy recommendations include establishing formal coordination platforms, clarifying institutional mandates, enhancing stakeholder participation mechanisms, and developing integrated information systems for food security monitoring.

INTRODUCTION

Urban food security has emerged as a critical challenge in rapidly urbanizing developing countries, where cities face the dual burden of feeding growing populations while lacking sufficient agricultural production capacity (Dwiartama et al., 2023). Indonesia, with an urbanization rate exceeding 56% and projected to reach 66% by 2035, exemplifies this challenge (Haikal et al., 2025). Urban areas in Indonesia depend heavily on external food supply chains, creating vulnerabilities to price fluctuations, supply disruptions, and food access inequalities.

The complexity of urban food systems requires governance approaches that transcend traditional hierarchical structures. Network governance, characterized by horizontal relationships and multi-stakeholder collaboration, offers a promising framework for addressing food security challenges that span multiple sectors and jurisdictions (Filippini et al., 2019). However, empirical evidence on how network governance operates in Indonesian urban food security contexts remains limited.

Recent studies highlight the persistent challenges in Indonesia's food security governance. (Hartati et al., 2024) identified implementation gaps in food security programs at the village level, while institutional gridlock analysis revealed fragmentation and conflicts of interest among government institutions responsible for urban food governance (Dalimunthe et al., 2024). These challenges are compounded by the COVID-19 pandemic, which exposed critical vulnerabilities in centralized food distribution systems and underscored the need for more resilient, locally-embedded governance arrangements (Houessou et al., 2021).

Despite Indonesia's national food security policies and institutional frameworks, urban areas continue to experience food insecurity, particularly among low-income populations. Data from the National Food Security Agency indicates that urban food insecurity affects approximately 20-30% of households in major cities, with significant variations across neighborhoods (BKP, 2019). This persistent insecurity occurs despite substantial government investments in food security programs, suggesting fundamental governance challenges rather than merely resource constraints.

The literature identifies several governance-related barriers to effective urban food security policy implementation. First, institutional fragmentation across multiple government agencies with overlapping mandates creates coordination challenges and implementation gaps (Hartati et al., 2024). Second, limited engagement of non-state actors, including civil society organizations, private sector, and urban communities, restricts the diversity of resources and innovations available for addressing food security (Dwiartama & Piatti, 2016). Third, hierarchical governance approaches prioritizing top-down directives often fail to accommodate local contexts and community capacities (Dwiartama et al., 2023).

This study aims to analyze the dynamics of network governance in implementing urban food security policies in Indonesia. This research contributes to both theoretical and practical understanding of network governance in developing country contexts. Theoretically, it extends network governance literature by examining how governance modes operate in resource-constrained urban settings characterized by institutional fragmentation and capacity limitations. Practically, the

findings provide evidence-based insights for policymakers seeking to enhance food security governance effectiveness through improved multi-stakeholder coordination.

LITERATURE REVIEW

Urban Food Security: Concepts and Challenges

Food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food meeting their dietary needs and food preferences for an active and healthy life (FAO, 2009). This definition encompasses four pillars: availability, access, utilization, and stability.

Urban food security presents unique challenges compared to rural contexts. (Crush & Frayne, 2011) argue that urban populations face distinctive vulnerabilities related to market dependence, informal settlement conditions, and income volatility. In Indonesian cities, these challenges manifest through high dependency on external food supplies—often exceeding 80% for staple foods—creating vulnerability to supply chain disruptions and price volatility (Suryadarma et al., 2010).

Recent research emphasizes the need to move beyond production-centric approaches toward understanding urban foodways and access mechanisms. (Dwiartama et al., 2023) demonstrate that urban poor populations in Southeast Asia develop their own food security strategies through informal markets, social networks, and adaptive consumption practices. This perspective highlights the importance of governance approaches that recognize and support community capabilities rather than imposing standardized solutions.

Network Governance Theory

Network governance represents a distinct mode of organizing collective action, characterized by horizontal patterns of communication, resource exchange, and decision-making among organizational actors (Provan & Kenis, 2008). Unlike hierarchical governance, which relies on authority and formal rules, or market governance, which depends on price mechanisms, network governance emphasizes trust, reciprocity, and collaborative problem-solving.

(Provan & Kenis, 2008) identify three modes of network governance based on centralization and formalization: participant-governed networks, lead organization-governed networks, and network administrative organization (NAO). Each mode has distinct implications for coordination effectiveness depending on contextual factors such as trust density, number of participants, goal consensus, and need for network-level competencies.

In the context of food security, (Filippini et al., 2019) apply network analysis to examine urban food policy contributions across developed and developing countries, finding that network density and centrality measures correlate with policy

effectiveness. Their research suggests that effective food security governance requires both bridging ties across sectors and bonding ties within stakeholder groups.

Food Security Governance in Indonesia

Indonesia's food security governance system operates through multi-level institutional arrangements, from national agencies like the National Food Security Agency (Badan Pangan Nasional) to provincial and district-level food security councils. However, research reveals significant coordination challenges in this system.

An institutional framework analysis by (Akbar et al., 2025) identifies critical roles of key institutions including the Ministry of Finance, National Development Planning Agency (BAPPENAS), and House of Representatives in strategic budget allocation, policy formulation, and legislative oversight. However, financial constraints, supply chain disruptions, and inadequate investment in agricultural innovation remain significant barriers to effective policy implementation.

At the urban level, governance challenges are compounded by rapid urbanization and the expansion of modern retail systems. (Dyck et al., 2012) document how Indonesia's modern retail sector has transformed food distribution patterns, creating new challenges for traditional markets and small-scale vendors who serve low-income urban populations. This transformation raises questions about governance mechanisms needed to ensure equitable food access across different socioeconomic groups.

Social Capital and Food Security Networks

Social capital plays a crucial role in urban food security governance. (Rusmawati et al., 2023) demonstrate that social capital—both bonding (within-group) and bridging (between-group) forms significantly affects food security outcomes in Indonesian households. Their research shows that support from community social networks, including informal credit and food sharing arrangements, can substantially reduce food insecurity.

However, (Yamin & Dartanto, 2016) note that constructing bridging social capital is more complex than developing bonding social capital, as social barriers such as differences in demographic and sociocultural traits prevent heterogeneous network formation. This finding has important implications for network governance design, suggesting the need for intentional bridging mechanisms and leadership from community, cultural, religious, and government leaders.

METHODOLOGY

This study employed a qualitative research design using a case study approach to examine network governance dynamics in urban food security policy implementation. The case study method was selected for its capability to provide in-depth, contextualized understanding of complex social phenomena involving multiple actors and institutional (Yin, Robert K, 2003) The research was conducted in Indonesian urban areas, focusing on mid-sized cities experiencing rapid urbanization and significant food security challenges. These cities were selected as they represent

common characteristics of Indonesian urban centers: high dependency on external food supply, institutional fragmentation in food security governance, and presence of both formal government programs and informal community-based food security initiatives.

Data were collected through multiple methods to ensure triangulation and enhance validity: (1) In-depth Interviews. (2). Document Analysis. (3). Observation. Data analysis followed thematic analysis procedures (Perry, K. & Hill, 2006). Interview transcripts and field notes were coded inductively to identify patterns and themes related to network governance. Key themes were organized around the research objectives: coordination mechanisms, enabling and constraining factors, stakeholder interaction patterns, and governance recommendations. The analysis was supported by NVivo software for systematic data management and coding.

To enhance analytical rigor, multiple strategies were employed: peer debriefing with academic colleagues to discuss emerging interpretations; member checking by sharing preliminary findings with selected informants for validation; and reflexivity through maintaining research journals documenting analytical decisions and potential researcher biases.

RESULTS AND DISCUSSION

Institutional Fragmentation and Coordination Challenges

The analysis reveals significant institutional fragmentation in urban food security governance, with multiple agencies operating with overlapping mandates and limited coordination. At the municipal level, at least four government agencies have direct responsibilities for food security: the Food Security Agency, Agricultural Department, Trade Department, and Social Welfare Agency. Each agency operates distinct programs targeting different aspects of food security, often without systematic coordination.

One government official explained: *"We have our own programs and targets set by our superiors. While we know other agencies are also working on food security, we rarely have time to coordinate comprehensively. Usually, coordination only happens when there are urgent issues or when mandated from higher levels."*

This finding aligns with (Hartati et al., 2024) who identified implementation gaps in food security programs resulting from institutional fragmentation. The lack of horizontal coordination mechanisms results in duplicated efforts in some areas while leaving critical gaps in others. For instance, multiple agencies may implement food assistance programs in the same neighborhoods while food-insecure communities in peripheral areas receive limited attention.

The institutional gridlock analysis by (Dalimunthe et al., 2024) provides a theoretical framework for understanding these challenges. Their research demonstrates how path dependency, institutional layering, and power centralization legacy contribute to governance gridlock that hampers effective policy implementation. In the present study, these dynamics manifested through rigid

organizational boundaries, hierarchical decision-making cultures, and resistance to collaborative governance approaches.

Limited Multi-Stakeholder Engagement

Despite rhetoric about participatory governance, actual engagement of non-state actors in food security governance remains limited. Civil society organizations and community groups are often invited to dissemination events but rarely involved in policy formulation or program design. An NGO representative noted: *"We are usually called after decisions have been made, basically to help with implementation. Our input on what communities actually need is not systematically considered."*

This limited engagement pattern contrasts with network governance principles emphasizing horizontal relationships and shared decision-making. The analysis suggests two main factors constraining multi-stakeholder engagement. First, government agencies maintain strong preferences for hierarchical control, viewing external stakeholders as implementation partners rather than governance participants. Second, capacity limitations among civil society organizations, particularly in technical policy analysis and evidence generation, reduce their influence in policy processes.

However, the research also identified promising practices of network governance at community levels. Several neighborhoods have developed informal food security networks linking urban farmers, community kitchens, and local businesses. These grassroots networks demonstrate adaptive governance capacities that could inform formal policy structures. (Dwiartama et al., 2023) similarly document how urban poor populations develop food security strategies through social networks and informal markets, suggesting the importance of governance approaches that recognize and support community capabilities.

Trust Deficit and Information Asymmetry

Trust emerged as a critical factor affecting network governance effectiveness, yet trust levels among stakeholders remain low. Government agencies express skepticism about civil society capacity and motivations, while non-governmental actors question government commitment to genuine participation. A community leader observed: *"They invite us to meetings, but we don't feel heard. Important decisions are made elsewhere. After a while, we become less motivated to participate."*

Following (Provan & Kenis, 2008) framework, trust density is crucial for participant-governed networks. The low trust levels observed in this study suggest challenges for implementing fully collaborative governance arrangements. However, the analysis also reveals opportunities for trust-building through demonstrated commitment to shared goals and transparent information sharing.

Information asymmetry further complicates governance coordination. Different agencies collect and maintain separate data systems without systematic integration. This fragmentation limits evidence-based coordination and makes comprehensive food security assessment difficult. (Akbar et al., 2025) identified

similar challenges in their institutional framework analysis, noting that inadequate information systems hamper effective crisis response and resource allocation.

(Rusmawati et al., 2023) demonstrate the importance of social capital in facilitating information flows and resource sharing for food security. Their finding that informal community networks significantly reduce food insecurity suggests the value of governance approaches that leverage existing social ties rather than imposing entirely new structures.

Power Asymmetry and Participation Quality

The research reveals significant power asymmetry among stakeholders affecting the quality of participation and collaborative decision-making. Government agencies control critical resources including budgets, regulatory authority, and access to decision-making arenas. This power concentration limits the ability of civil society and community actors to influence governance processes meaningfully.

Power dynamics manifest in several ways. First, government agencies set agendas for coordination meetings, determining which issues receive attention. Second, technical language and formal meeting procedures create barriers for community representatives with limited formal education. Third, short timelines for consultation processes prevent thorough community mobilization and input collection.

These findings resonate with concerns raised by (Dwiartama & Piatti, 2016) about governance approaches that fail to accommodate local contexts and community capacities. Effective network governance requires more than procedural participation; it necessitates substantive power-sharing and recognition of diverse knowledge forms.

Governance Mode Preferences and Appropriateness

Using typology, the current governance arrangements in the studied contexts predominantly reflect lead organization-governed networks, with Food Security Agencies serving as coordinating hubs. However, the effectiveness of this mode appears limited by insufficient authority and resources to fulfill coordinating functions. Food Security Agencies lack mandate to compel other agencies' participation or enforce coordination decisions.

Informants expressed mixed views on optimal governance modes. Government officials generally preferred maintaining centralized coordination through lead agencies, arguing for efficiency and clear accountability. In contrast, civil society representatives advocated for more distributed governance arrangements with stronger roles for community organizations. One community organizer argued: *"Food security solutions need to come from communities themselves. Government should facilitate and support, not control everything from the top."*

This divergence reflects deeper tensions in governance philosophy. (Haikal et al., 2025) note that smart city planning policies in Indonesia have been subject to numerous misconceptions compared to successful implementations in developed

countries, often prioritizing technological solutions over community engagement and equitable development.

The research suggests that governance mode appropriateness may vary across different food security functions. Centralized coordination through lead organizations may be suitable for large-scale food distribution programs requiring standardized procedures. However, community-level food security initiatives addressing local preferences and utilizing indigenous knowledge may benefit from participant-governed network arrangements with stronger community control.

Innovations in Network Governance

Despite challenges, the research identified several governance innovations demonstrating network governance potential. Multi-stakeholder forums have been established in several cities, creating platforms for dialogue across government agencies, NGOs, and community organizations. While these forums currently have limited decision-making authority, they provide spaces for information sharing and relationship building that could evolve into more substantive coordination mechanisms.

Urban agriculture programs represent another governance innovation. Several municipalities have developed partnerships with civil society organizations to support community gardens on vacant public land. These partnerships involve resource sharing, with government providing land access and initial inputs while NGOs contribute technical training and organizational support. The collaborative nature of these initiatives demonstrates feasibility of multi-stakeholder arrangements in food security contexts.

Digital information systems also show promise for enhancing governance coordination. Some cities have developed food security dashboards integrating data from multiple sources to enable real-time monitoring of food prices, availability, and access indicators. These systems could facilitate evidence-based coordination and rapid response to emerging food security challenges. These innovations align with (Filippini et al., 2019) findings that network density and integration correlate with food policy effectiveness. However, scaling and institutionalizing these innovations requires sustained political commitment and adequate resource allocation.

CONCLUSION

This study examined network governance dynamics in implementing urban food security policies in Indonesia, revealing significant challenges and opportunities. The findings demonstrate that current governance arrangements predominantly reflect hierarchical approaches with limited multi-stakeholder collaboration, despite rhetoric about participatory governance. Institutional fragmentation, trust deficits, information asymmetry, and power imbalances constrain effective network governance.

Three main governance challenges were identified. First, institutional fragmentation across multiple agencies with overlapping mandates creates coordination difficulties and implementation gaps. Government agencies tend to

operate in silos, resulting in duplicated efforts and unaddressed needs. Second, limited multi-stakeholder engagement restricts the diversity of resources and innovations available for addressing food security. While government agencies maintain strong preferences for hierarchical control, civil society and private sector engagement remains minimal. Third, trust deficits and inadequate information-sharing mechanisms hinder effective network coordination. Low trust levels among stakeholders and information asymmetry limit the potential for collaborative governance arrangements.

However, the research also identified promising innovations demonstrating network governance potential, including multi-stakeholder forums, urban agriculture partnerships, and integrated information systems. These innovations suggest pathways for strengthening urban food security governance through enhanced coordination and collaboration.

This study has several limitations. The case study approach, while providing in-depth insights, limits generalizability across different urban contexts. Future research could employ comparative analysis across cities with varying characteristics to identify context-specific governance strategies. Additionally, the research primarily captured perspectives at one point in time. Longitudinal studies tracking governance evolution and policy outcomes would strengthen understanding of what governance arrangements work under what conditions. Future research should also examine the role of digital technologies in facilitating network governance, particularly given rapid expansion of e-government and smart city initiatives in Indonesia. Investigation of how digital platforms can overcome traditional barriers to coordination and participation while addressing digital divide concerns would be valuable.

Finally, this study focused on governance processes. Future research could examine linkages between governance arrangements and food security outcomes, assessing whether and how improved network governance translates into reduced food insecurity and enhanced community resilience.

Strengthening urban food security in Indonesia requires fundamental transformation in governance approaches, moving from hierarchical, siloed arrangements toward more collaborative, network-based coordination. While challenges are substantial—rooted in institutional legacies, capacity constraints, and political economy dynamics—the innovations identified in this research demonstrate that change is possible. Effective urban food security governance demands recognition that no single actor possesses all necessary resources and knowledge. Network governance arrangements leveraging diverse stakeholder capabilities while ensuring equitable participation offer promising pathways for building more sustainable and resilient urban food systems.

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