NAKHODA
JURNAL ILMU PEMERINTAHAN

Nakhoda: Jurnal Ilmu Pemerintahan
Vol. 25 No. 1 (2026): 107 - 123
p-ISSN: 1829-5827
e-ISSN: 2656-5277

Collaborative Governance, Stakeholder Coordination, and Stunting Reduction: The Role of Government in Loktuan Urban Village, North Bontang

Tata Kelola Kolaboratif, Koordinasi Pemangku Kepentingan, dan Pengurangan Stunting: Peran Pemerintah di Kelurahan Loktuan, Bontang Utara

Sunyk Widiarsih [1], Kus Indarto [2], Saipul [3]

[1, 2, 3]Universitas Mulawarman, Samarinda, Indonesia

Corresponding Author: widywidya336@gmail.com

Abstract

We analyze the role of government and stakeholders in addressing stunting in Loktuan Urban Village, North Bontang, through the lens of collaborative governance. We find that the continued prevalence of stunting is not caused merely by a lack of resources and the absence of programs, but by weak coordination capacity and insufficient integrated collaboration among stakeholders. We employed a qualitative, interpretive approach, gathering data through in-depth interviews, observations, and documentation with local government representatives, community health workers, and social actors. Despite the presence of multi-sectoral programs, we find that their execution remains sectoral and disconnected, owing to a lack of shared responsibility and interdependence among stakeholders. Government steering functions as regulatory administration rather than as orchestration capable of aligning actors toward a shared outcome, while stakeholder engagement stays transactional and activity-based rather than co-produced. We contribute to governance scholarship by shifting the analytical focus from program availability to the government's capacity to orchestrate multi-actor collaboration at the local level, offering insight into how village governance can move from fragmented coordination toward an integrated, accountable collaborative system for stunting reduction.

Keywords

Collaborative Governance; Stunting Reduction; Stakeholder Coordination.

Abstrak

Kami menganalisis peran pemerintah dan pemangku kepentingan dalam mengatasi stunting di Kelurahan Loktuan, Bontang Utara, melalui lensa tata kelola kolaboratif. Kami menemukan bahwa prevalensi stunting yang terus berlanjut bukan hanya disebabkan oleh kurangnya sumber daya dan ketiadaan program, tetapi juga oleh lemahnya kapasitas koordinasi dan kurangnya kolaborasi terintegrasi antar pemangku kepentingan. Kami menggunakan pendekatan kualitatif interpretatif, dengan pengumpulan data melalui wawancara mendalam, observasi, dan dokumentasi bersama perwakilan pemerintah daerah, petugas kesehatan masyarakat, dan aktor sosial. Meskipun program multisektoral telah tersedia, kami menemukan bahwa pelaksanaannya masih bersifat sektoral dan tidak saling terhubung, akibat kurangnya tanggung jawab bersama dan saling ketergantungan antar pemangku kepentingan. Fungsi pengarahan pemerintah masih bersifat administratif-regulatif, bukan orkestrasi yang mampu menyelaraskan seluruh aktor menuju hasil bersama, sementara keterlibatan pemangku kepentingan masih bersifat transaksional dan berbasis kegiatan, bukan ko-produksi. Studi ini berkontribusi pada kajian tata kelola dengan mengalihkan fokus analisis dari ketersediaan program menuju kapasitas pemerintah dalam mengorkestrasi kolaborasi multi-aktor di tingkat lokal, serta menawarkan wawasan tentang bagaimana tata kelola kelurahan dapat beralih dari koordinasi yang terfragmentasi menuju sistem kolaboratif yang terintegrasi dan akuntabel bagi pengurangan stunting.

Kata Kunci

Tata Kelola Kolaboratif; Pengurangan Stunting; Koordinasi Pemangku Kepentingan.

Check for updates

DOI: 10.35967/njip.v25i1.934

Submitted: 14 November 2025
Accepted: 17 May 2026
Published: 19 June 2026

© Author(s) 2026
This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

1. Introduction

Stunting is continually evolving into becoming a consistent and major public health issue in the world, leading to considerable socioeconomic impacts especially in developing nations due to the interaction between inequality, governance fragmentation, and policy implementation deficiencies and structural determinants of poverty and nutrition deficiency. The World Health Organization estimates that there were 149 million children under five years who suffered from stunting in 2022, which not only makes stunting an emergency in terms of public health but also an emergency of governance and development, requiring effective cooperation among different parties and actors. Stunting has been identified as a systemic governance issue besides being a biomedicine issue since the determinants of stunting are spread across different institutions and not just in the domain of health administration. As evidence increasingly demonstrates that multi-sectoral determinants drive stunting, ranging from sanitation systems, food systems, livelihood security, household socioeconomic capital, maternal knowledge and empowerment, and access to clean water, the key question for contemporary public policy analysis is not only whether interventions exist, but whether governance systems are capable of orchestrating cross-actor collaboration effectively within complex implementation chains that require sustained alignment. The implications elevate the problem from a technical nutrition challenge toward a collaborative governance demand that requires alignment of national policy mandates, local government execution capacity, stakeholder incentives, and community participation (Gupta et al., 2018; Pelletier et al., 2018; Samintang Samintang et al., 2023; Webb et al., 2016).

Indonesia has raised the agenda of stunting as a national strategic priority and aims at reducing the prevalence rate of stunting to 14% by 2024. The national prevalence has steadily reduced from 27.7% in 2019 to 21.5% in 2023; however, the disparity across different provinces still remains very pronounced, which implies that commitment at the national level does not necessarily imply commitment at the provincial levels. Such disparities are one of the important points discussed in the literature on governance, which indicates that the heterogeneity in policy performance is not just caused by lack of resources but by the coordination failures between various actors having overlapping jurisdiction, conflicting institutional incentives and fragmented accountability arrangements. Against this background, the case of East Kalimantan is a relevant empirical example since the performance in reducing stunting still remains above the national averages and the prevalence rate stands at 22.9% in 2023. The city of Bontang has a high stunting rate. Despite national funding flows, national–local coordination systems, and standardized guidelines for program integration across sectors, the persistent high burden and uneven reduction trajectory suggest that governance factors shape implementation performance in ways that cannot be adequately explained by resource availability alone.

Within Bontang, Loktuan Urban Village constitutes the most critical local case. Loktuan consistently records the highest stunting burden in the city, reaching 176 cases in 2025. What makes this location analytically interesting is not only the numerical magnitude, but the chronicity and persistence of the problem despite multiple national and regional intervention cycles. This indicates that institutional orchestration failure rather than absence of interventions constitutes the core governance bottleneck (Beycioglu & Kondakci, 2021; Zhang & Zhu, 2025). Stunting interventions are not absent in Loktuan. They exist. The government conducts supplementary feeding activities, maternal education for pregnant women and breastfeeding mothers, height monitoring at the pos pelayanan terpadu [integrated health posts] (posyandu), sanitation improvement initiatives, and various

nutritional campaigns. Multi-stakeholder presence also exists: pusat kesehatan masyarakat [community health centers] (puskesmas), cadres, local community leaders, non-governmental organizations, and government agencies hold some form of involvement. However, fragmentation is observable in action implementation, alignment of inputs, mutual accountability, and coordination routines across these actors. In other words, interventions exist, yet the system that integrates them does not operate as a governance ecosystem capable of producing convergent effects. This gap between program existence and program synergistic functioning calls for a governance centered analytical approach, specifically focusing on collaborative governance performance in local stunting reduction systems.

The strategic importance of analyzing Loktuan lies in the fact that it represents a micro level manifestation of a common structural governance challenge in Indonesia: highly centralized national mandates are not necessarily translated into locally orchestrated collaborative implementation mechanisms capable of producing integrated outcomes across actors. National level multi-sectoral design does not automatically become multi-stakeholder synergy at the frontline. Stunting prevention requires simultaneous alignment of multiple policy instruments, yet these instruments are dispersed across institutions whose operational logic is not naturally interconnected. Each agency or stakeholder tends to operate based on administrative silos, sectoral boundaries, and vertical accountability, while stunting reduction demands horizontal accountability and relational coordination. Collaborative governance becomes central not as a normative preference, but as a structural necessity. This introduces core theoretical significance: governance failures in stunting are failures of orchestration capacity, not only failures of implementation compliance. The complexity of actor interaction in Loktuan implies that studying stunting reduction from the lens of government–stakeholder role interdependence is more intellectually adequate than studying program performance in isolation (Sengchaleun et al., 2023; Untung et al., 2025).

In addition, the local socioeconomic characteristics of Loktuan intensify the policy demands for collaborative governance. Many families with stunted children experience limited access to diverse nutritious food, low household income stability, and uneven literacy levels regarding maternal nutrition practices. These factors are deeply embedded within community structures, daily practices, inter household dynamics, and cultural norms. Hence, governance intervention cannot simply be technocratic. Stakeholder participation should comprise not just government offices but also religious figures, community figures, neighborhood intermediaries, puskesmas cadres, civil society members, and even local informal groups. Their power is relational, not bureaucratic, and therefore can change behavior more quickly than vertical orders. Nevertheless, for this relational power to be harnessed successfully, the orchestration of trust, meaning, and problem ownership beyond program design guidelines is essential (Enger & Gulbrandsen, 2020; Kretschmer et al., 2022). In the event that the government limits itself to the role of program administrator rather than orchestrator, collaborative governance cannot become a practice. This tension between administratively standardized intervention and locally adaptive participatory governance becomes one of the critical sources of failure in Loktuan.

The contemporary literature on academia highlights the fact that collaborative governance does not pertain only to the issue of stakeholder involvement; instead, it relates more to state capacity to steer such efforts to mobilize resources, aligning activities, coordinating roles, and maintaining mutual accountability among stakeholders with diverse power, interests, and institutional logics. The effectiveness of collaborative governance depends on the government's capacity to coordinate stakeholder efforts into collective effect. Without orchestration, stakeholders remain

activity performers, not system contributors. Governance studies argue that fragmentation is not just procedural, but cognitive and motivational: actors may not share the same understanding of problem priority, or may not share the same expectations about what constitutes effective action, or may not treat stunting reduction as an integrated systemic challenge rather than sectoral assignment. In Loktuan, there are many stakeholders who function, yet the functioning of those stakeholders is not automatically brought together as a responsibility for stunting. In that respect, the importance of the role played by the government and other stakeholders should be understood not only in a descriptive sense but also relationally (Afandi et al., 2024; Singh et al., 2024).

Studies on the prevention of stunting have paid much more attention to the need for multi-sectoral cooperation and involvement of various stakeholders. Nevertheless, these studies have concentrated either on the effectiveness of programs or policies or on the role of a certain sector without much consideration for how governance orchestration works at the local level. Furthermore, there is no sufficient research on how government's steering capability affects the alignment, coordination, and collaboration among various stakeholders at the local level (Goi et al., 2024).

Our contribution to the body of knowledge is to move from a focus on availability of programs to an examination of governance orchestration capabilities in the village. Rather than viewing collaboration as a normative aspect, we analyze the manner in which the government acts as a meta-governor in aligning its stakeholders, coordinating itself, and orchestrating actions. We examine how government steering capacities and stakeholder relationships affect the performance of collaborative governance in combating stunting in the village. Through the analysis of Loktuan Urban Village, we offer insight into the challenges of fragmentation, lack of coordination and orchestration capacities in hampering integrated implementation of policies.

2. Methods

We employ a qualitative research design with an interpretive approach to examine collaborative governance dynamics in stunting reduction in Loktuan Urban Village, North Bontang. A total of 15 respondents were identified for interviews through purposive and snowballing sampling methods depending on their direct participation in the stunting program, social or institutional power and at least one year of experience in program implementation. The research methodology used included in-depth semi-structured interviews, non-participant observation, and document analysis with interviews running for about 45–90 minutes and audio-taped after obtaining consent from the respondents. Data analysis was done using a thematic analysis approach which entailed transcription of interviews, open coding in order to generate meaning units, organizing codes into emerging patterns and developing three major themes including government steering competence, stakeholder interdependence and structural fragmentation. In order to increase credibility and trustworthiness of findings, we adopted data triangulation, member checking from some selected informants, and iterative coding of data (Amadi, 2023; Neale, 2021). To visualize relational patterns identified through coding, we constructed network diagrams (Figures 1 and 2) in which nodes represent coded stakeholders or contributing factors and edge weights reflect the relative frequency with which co-occurring relationships were referenced across transcripts and field notes. Figure 1 presents a simulated, schematic rendering of the coordination-barrier relationships identified through this process, intended to illustrate the pattern of interlinkage rather than to report a precise quantitative measure. We additionally assessed program overlap across actors using a Jaccard similarity

analysis (Figure 3), based on categorizing each stakeholder's documented program involvement, drawn from document analysis, into discrete program-type sets.

3. Results and Discussion

Government steering and institutional coordination mechanisms represent a central determinant in shaping the effectiveness of stunting prevention efforts in Loktuan Urban Village. Findings indicate that although the government has articulated policy mandates and allocated formal responsibilities across sectors, the steering function is not yet operating as an orchestration mechanism capable of aligning actors within one integrated direction. The authority of government in this setting tends to be more regulatory and programmatic instead of functioning as a meta-governor capable of mobilizing joint commitment, consolidating information flows, ensuring synchronized work planning, and harmonizing intervention timing across sectors. Coordination meetings exist, yet these interactions remain procedural and do not transform into joint strategic decision-making platforms (Claggett & Karahanna, 2018; Fang et al., 2021; Hsieh & Vergne, 2023). Many programs run in parallel and are not constructed through joint scenario planning or agreed cross-actor roles. This suggests that the governance challenge in Loktuan is not about absence of program, but about absence of structured orchestration steering that ensures all government units and stakeholders contribute to one connected system of intervention.

Stakeholder engagement dynamics suggest that multiple actors actually operate within the stunting ecosystem, but the quality of their relational interdependence remains weak and fragmented. Stakeholders involved in implementation include health workers, puskesmas cadres, community leaders, religious leaders, subdistrict administrators, and non-governmental organizations. However, engagement is not relationally motivated by shared accountability toward stunting outcomes, rather most actors operate based on their internal institutional routines. This leads to limited ownership of collective results. In collaboration theory, participation will not be seen as meaningful if there is no sharing of problem-framing strategically, allocation of tasks based on complementary skills, and information exchange that is continuous. In Loktuan, these conditions are not yet fully present. Stakeholders interact, but not co-produce governance outcomes. Trust relations exist, but they are not leveraged as instruments of policy co-production (Bandola-Gill et al., 2023; Knowles et al., 2021; Strokosch & Osborne, 2020). Stakeholder presence therefore does not automatically become stakeholder synergy. This is one of the reasons why program interventions are active, but impact convergence is weak.

We also find that governance barriers and structural fragmentation constitute fundamental obstacles that inhibit integrated implementation of stunting reduction. Fragmentation is reflected in disjointed program timelines, sectoral segmentation, partial information exchange, and lack of unified data consolidation between actors. Several institutions maintain their own reporting structures, indicators, and operational focus, leading to duplication in some intervention areas while creating blind-spot gaps in others. In addition, bureaucratic routines are still structured around vertical compliance toward higher-level administrative chains rather than horizontal collaboration at the local frontline level. This creates a governance architecture where actors comply to their own agency output demands, but not to collective outcome goals (Allen et al., 2023; Bridoux & Stoelhorst, 2022; Klein et al., 2019). Even when actors acknowledge that stunting is a shared multi-sectoral problem, operational incentives are still not designed to reward cross-sectoral alignment. Consequently, implementation results appear uneven, with some programs effective in specific micro contexts while others fail to achieve behavioral change or nutrition improvement consistently across the population.

These three findings collectively reinforce the argument that stunting reduction failure in Loktuan is not primarily a resource deficiency nor ignorance of program design, but a governance orchestration problem where the government has not yet fully exercised its steering capacity to transform stakeholders into an integrated collaborative governance ecosystem. Stunting handling demands that the government not merely be a program administrator, but a system integrator who ensures problem framing alignment, harmonization of strategies, synchronization of actor contribution, and consolidation of accountability. The fragmentation observed illustrates that collaborative governance in Loktuan remains latent rather than operationalized. To move toward a more effective stunting prevention model, governance innovation must be directed toward strengthening orchestration capability, redesigning coordination structures toward joint decision platforms, building shared measurement systems, incentivizing interdependent action, and institutionalizing collaborative routines as part of policy implementation practice. Only through these transformations can the roles of government and stakeholders converge into impactful collective action capable of driving sustained reductions in stunting prevalence in Loktuan Urban Village.

3.1. Government Steering and Institutional Coordination Mechanisms in Stunting Prevention at the Village Level

Government steering and institutional coordination mechanisms at the village level in Loktuan constitute an important determinant of how stunting prevention policy is translated into operational governance practices. Although the government formally sets the policy framework and establishes multi-sectoral mandates, the steering function does not yet operate as a meta-governance capability that actively shapes convergence, alignment, and integration across stakeholders. The government's presence primarily manifests through technical programmatic instruction and compliance-oriented administrative cycles, rather than forming strategic orchestration processes that position the government as the central coordinator of joint action. With respect to stunting being a multifaceted problem in terms of its linkages with maternal health, sanitation, access to clean drinking water, socioeconomic vulnerability, household knowledge about nutrition, and behavior, the lack of any meta-governance function means that interventions fail to generate interlinked results (Raiten & Bremer, 2020; Vir, 2016). Rather, they remain purely sectoral and episodic. This condition is reflected in how different village-level sectors, health institutions, and community service units follow their own mandates without being connected through an integrated steering mechanism that produces mutual responsibility toward shared stunting reduction targets.

Institutions within Loktuan Urban Village have coordinating structures in place in their formal form; nevertheless, the process of coordination remains procedural in nature, not strategic. The coordination discussions between village government, puskesmas, cadres, and community participants usually revolve around reporting procedures, updates on activities performed, and compliance verification, rather than becoming forums where collaborative policy analysis and strategy development are being done. In this case, coordination becomes reactive rather than proactive, driven by compliance issues rather than proactive governance planning. The mechanism of coordination becomes ritualistic, fulfilling formal expectations but not producing new knowledge, shared understanding, or co-created solutions. As a result, there is no shared problem framing that connects all actors' work streams into a coherent narrative of how stunting should be tackled in an integrated manner. It is because of this difference that the silo mentality tends to emerge, whereby each institutional actor is concerned about meeting his internal performance standards and not aligning himself with others. In the absence of coordination of

interpretation, cross-actor coordination becomes hard to institutionalize, resulting in a reduction in the transformative capabilities of multi-actor governance systems.

The absence of a unified steering model also reflects limitations in the ability of the government to mobilize knowledge circulation, information integration, and joint accountability mechanisms at the village level. Stunting data, household profiles, risk identification, and early warning signals are not consolidated into a shared measurement system that allows different actors to intervene based on synchronized reference points. Every institution uses its data gathering and reporting processes; hence, the information environment is fragmented, which hinders collaborative adaptive governance. Without common information and shared responsibility, the coordination among institutions remains symbolic and substantively weak. For improving the results of stunting prevention, the governance role of the government must move from coordination to orchestration that will institutionalize the multi-actor collaboration as a form of normative governance. In such a way, the local governance of the villages will be able to integrate the fragmented activities of actors into collaborative actions that will lead to decreasing the rate of stunting through coordinated intervention strategies, not parallel interventions.

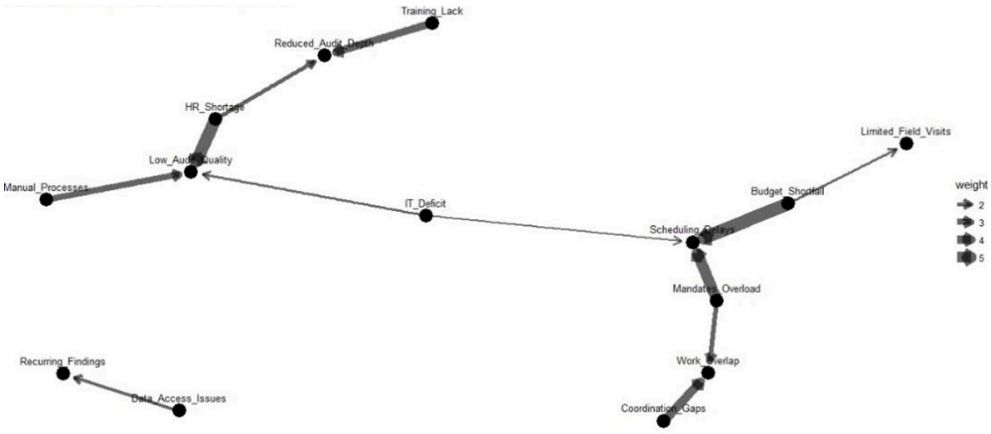


Figure 1. Coordination Network: Actor Interaction (Simulated)

Source: Authors' analysis, data processed. (2026)

Figure 1 above illustrates, in simulated, schematic form, a coordination network showing the relationship between structural, organizational, and technological causes through an intricate sequence of causality. The dots (nodes) in the figure represent particular factors that affect the quality of institutional coordination, while the straight lines represent causality among those factors. The diagram is intended to illustrate the pattern of interlinkage identified through coding rather than to report precise measured values. Through this illustration, one can see that the governance and coordination problems in the policy process cannot be treated as isolated but as an interdependent system, whereby the problems reinforce each other to create wider consequences.

In this network, human resource shortages and inadequate workforce capacity occupy a central position, generating subsequent layered challenges. It manifests itself in terms of nodes like Human Resource Shortages, Lack of Training, and Reduced Audit Depth that interconnect to result in Low Audit Quality. In this case, capacity problems are no more than factors that influence later stages of policy implementation and evaluation (Brownson et al., 2018; Mauli et al., 2023; Melidis & Gouglas, 2025). Reduced audit depth influences further evidence production, quality control, and early detection of anomalies, which leads to the emergence of a vicious circle.

This figure also shows how technical and institutional infrastructure constraints, such as IT deficits, contribute to coordination breakdowns. When information systems are weak, data integration, reporting flows, response speed, and decision-making inevitably suffer. This has a ripple effect across areas such as scheduling delays, budget shortfalls, and limited field visits, which in turn undermine the implementation of frontline activities. The figure underscores that technological limitations are not merely instrumental issues, but rather governance infrastructure issues that directly impact intervention timing, feedback loops, field targeting accuracy, and overall implementation effectiveness (Braithwaite et al., 2018; Penney et al., 2021).

On the right side of the network, we observe issue clusters related to mandate overload, role overlap, and workload imbalance. Nodes such as Mandate Overload, Overlapping Work, and Coordination Gaps represent how coordination problems are rooted not only in communication failures but also in incoherent institutional role structures. When one agency assumes too many mandates that are not aligned with those of other actors, fragmentation becomes inevitable (Corbett & Howard, 2017; Hogl et al., 2016). This is common in multi-actor public policy settings where governance orchestration is weak, resulting in actors fulfilling sectoral mandates rather than aligning their roles to achieve collective outcomes.

The figure also shows that several issues fall outside the core coordination cluster, such as Data Access Issues and Recurring Findings, which appear disconnected from the main network structure. This reflects the existence of residual or latent issues that remain outside the priority intervention pathways and therefore often escape systematic mitigation. When these issues persist on the fringes of the coordination ecosystem, they can become chronic problems that continually resurface due to their neglect from strategic policy attention. This situation emphasizes the need for coordination mechanisms not only to strengthen the network of central actors but also to broaden the scope of oversight of peripheral systemic vulnerabilities.

In general, this graph shows that coordination problems are not just a matter of "not having coordination meetings," but they are a problem that takes place within a relational system affected by resource limitations, weak governance, fragmentation, and incompatible institutional architectures. Coordination failure is therefore a systemic, and not procedural, problem. It requires a change in the relational dynamics between the elements of the coordination ecosystem, instead of addressing these separately. Orchestration, shared responsibility, and integration are thus basic necessities for turning fragmented actor contributions into coordinated action.

3.2. Stakeholder Engagement Dynamics and Interdependence in Multi-Actor Collaboration

Stakeholder engagement dynamics as they relate to the issue of stunting reduction in Loktuan Urban Village suggest that the existence of many stakeholders does not automatically lead to collaborative governance that creates collective outcomes. Interaction among various stakeholders like village administration, puskesmas personnel, posyandu cadres, religious authorities, community people, non-governmental organizations (NGOs), and other social organizations within the locality is more transactional in nature and based on functional roles instead of common accountability for achieving the outcome. Every stakeholder has willingness to participate, but participation still depends on internal practices and mandate of the organization rather than common strategy. This suggests that collaboration is still passive, symbolic, and activity-based, lacking mechanisms that create relational continuity. Engagement still occurs episodically, often mobilized when there are program activities taking place, scheduled meetings, or reporting

deadlines. As a result, the logic of action is still dominated by internal institutional obligations rather than by co-created problem framing, mutual responsibility, and joint ownership of reduction outcomes.

Interdependence between actors plays an important role in assessing the quality of collaboration, but interdependence in Loktuan is not institutionalized (Lu & Carter, 2023; Mu et al., 2019). The stakeholders understand the multi-sectoral nature of the problem of stunting and understand the necessity of collaboration; nonetheless, their understanding stays on a discourse level and does not turn into actual actions. According to the collaborative governance framework, interdependence becomes productive only if the actors feel that they cannot achieve their goals unless the alignment takes place. In Loktuan, this belief is not yet embedded as practical logic. Although actors are aware that they cannot operate effectively in isolation, they still default toward sector-bound logic, meaning they continue to perform roles in isolation while symbolically supporting multi-actor involvement. Without institutionalized interdependence, shared meaning does not evolve into shared action, making synergy difficult to produce in everyday implementation.

Another challenge observed is that stakeholder engagement is still not structured as a continuous learning system. Knowledge exchange, joint reflection, and cross-actor learning are not sustained through structured governance routines, resulting in weak internalization of shared understanding. When engagement lacks institutional learning mechanisms, stakeholders cannot transform field experience into adaptive knowledge that improves intervention strategies. Instead, knowledge remains segmented within institutional boundaries. This will ensure that the system cannot develop as a collaborative system where continuous learning is done. The participants will still only be restricted to their current modalities and cannot help in building up problem-solving capability (Jeleel-Ojuade, 2024). Consequently, while there may be engagement in name, the engagement will lack content in reality.

Ultimately, stakeholder dynamics in Loktuan suggest that multi-actor presence alone cannot solve complex problems such as stunting if the engagement is not supported by governance structures that embed interdependence into institutional routines. Stakeholder collaboration must be transformed from participation into co-production, where all actors are not only involved procedurally but are collectively responsible for producing shared impact. This requires a shift from coordination as an administrative activity toward collaboration as a governance architecture. This process will happen only if the actors realize that they are not parallel actors working towards their own independent programs, but rather interdependent actors in a system that has common objectives. Otherwise, stunting reduction will continue to encounter obstacles that come as a result of fragmented collective action and the capacity of multi-stakeholder cooperation to achieve success will be underutilized.

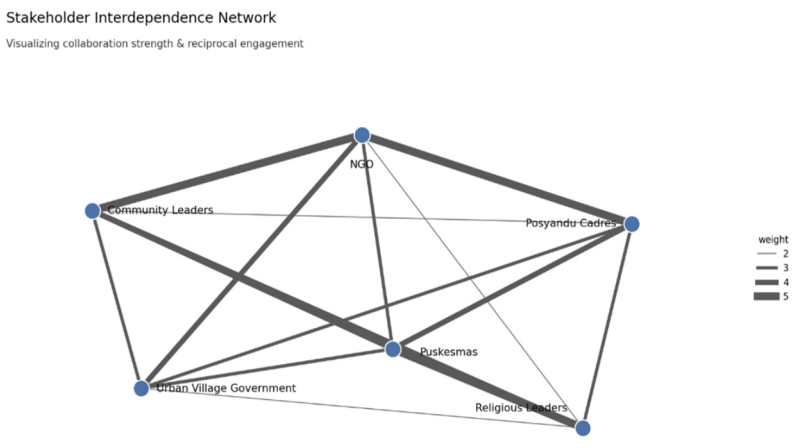


Figure 2. Stakeholder Interdependence Network

Source: Authors' analysis, data processed. (2026)

Figure 2 above illustrates how all the different parties that form part of stunting prevention interact with one another. Each dot stands for an important stakeholder, and the lines depict the extent of their participation. The thicker the connecting lines, the stronger the interaction and collaborative activities between actors. This figure demonstrates that stunting prevention does not rely solely on a single institution, but rather relies on the interaction of multiple actors working within an interconnected system where each entity influences the performance of the others.

Within the middle of the network, it is NGOs, puskesmas, and posyandu cadres which can be considered as the major nodes for interactions. It means that these parties have an important role to facilitate communication and information sharing among the different actors. Being bridges within the network, they are closer to field implementation, interaction with the community, and providing assistance to those families which are at risk of having children suffering from stunting because of their direct involvement in it (Alnajem, 2024; Apostolopoulou et al., 2022).

The Urban Village Government also maintains intensive relationships with several actors, although their level of interdependence may not be as high as that of NGOs or posyandu cadres. This suggests that the Urban Village Government holds formal steering authority at the policy level, but in practice, non-governmental actors are often the more dynamic agents driving collaboration on the ground. The Urban Village Government embodies the formal legitimacy of the governance system, while operational collaborative performance is often facilitated by actors in civil society and the health service network.

Religious and community leaders remain part of the network but exhibit lower centrality intensity compared to core actors. This is because community-based leaders exert great influence in relation to social legitimacy, value-based persuasion, and behavioral change, but they do not exert any dominant influence in technical coordination and policy bridging. Their influence comes from their ability to build trust, infuse cultural messages about health, and spread community-based knowledge—though unseen, their impact on implementation at the community level is immense (de Wit et al., 2018).

The figure also highlights the fact that interdependence between actors is asymmetrical, in the sense that some actors have a prominent role to play while other actors are complementary actors who do not have much formal power. Collaboration, in this case, does not happen through a linear progression, nor a hierarchical progression for that matter. Rather, collaboration takes place through a web of layers of relations that links up state actors, community actors, and civil societies together.

This network illustrates that the quality of multi-stakeholder collaboration is not solely determined by the number of actors involved, but rather by the strength, direction, and density of the relational connections between them. Interdependence indicates that the performance of one institution can strengthen or weaken the performance of another. This visualization emphasizes that stunting, as a multidimensional problem, can only be effectively addressed when the stakeholder ecosystem functions in a complementary manner and strengthens collective action. This implies that a stronger coordination design, integrated data architecture, and sustainable shared accountability mechanisms are necessary foundations for sustainable collaborative governance capable of reducing stunting.

3.3. Governance Barriers and Structural Fragmentation Hindering Integrated Stunting Reduction Efforts

Barriers to the process of reducing stunting can arise out of poor coordination among the mandate of institutions, agenda of sectors, and resource allocation mechanisms, which lead to fragmentation of efforts at the local level. Lack of

integration in governance leads to each party working independently in their own silos leading to duplication of programs and lack of synergy of strategic goals. Policy instruments that should function as enablers of coordination instead become administrative procedures that restrict flexibility and responsiveness. Fragmentation becomes even more pronounced when regulations, budgeting mechanisms, and technical operational guidelines do not support joint planning and cross-actor resource optimization, leading to an implementation environment where each institution focuses merely on achieving their own internal performance indicators rather than collective outcome reduction in stunting prevalence. This produces governance misalignment where multi-sectoral synergy is rhetorically recognized, but practically constrained (de Wit et al., 2018; Nordbeck & Steurer, 2016).

Fragmentation of structure also arises because of unequal availability of information, evidence, and data, which are needed for integration. Lack of common databases and information flow among the stakeholders creates an imbalance in the availability of information, causing inequality in terms of intervention capacity among different sectors. Actors in the health sector like puskesmas or posyandu cadres have important micro-level information on the nutritional status of households. However, this information does not get systematically integrated into social protection information, poverty mapping, or development planning instruments at the village level. In the process, governance actors are unable to find out which groups of families are vulnerable and which set of interventions could lead to maximum impacts. If information systems are fragmented, policies cannot be formulated in a proactive manner based on evidence and stakeholders are not able to create a common policy frame or strategy addressing underlying structural causes (Agbana, 2025; Rizkiah, 2023).

In addition, the lack of effective meta-governance coordination mechanisms for the governance of the stunting reduction ecosystem is further compounded by the lack of meta-governance orchestrating functions in the local context. There is a lack of coordinating institution that can help to coordinate the interactions between the actors, avoid redundancy in the institutions, ensure adherence, and realign mandates, making collaboration dependent on individuals rather than processes. Without such an orchestrating function with adequate authority and capacity, collaboration is conditional, episodic, and disorganized. This structural weakness prevents the system from transitioning toward transformative collaborative governance. Integrated stunting reduction requires not only multi-actor engagement, but also spatial and institutional coherence supported by systematic coordination architecture. Without such systemic governance reconfiguration, stunting interventions will remain partial, fragmented, and unable to address the complexity of nutritional vulnerability at the village level.

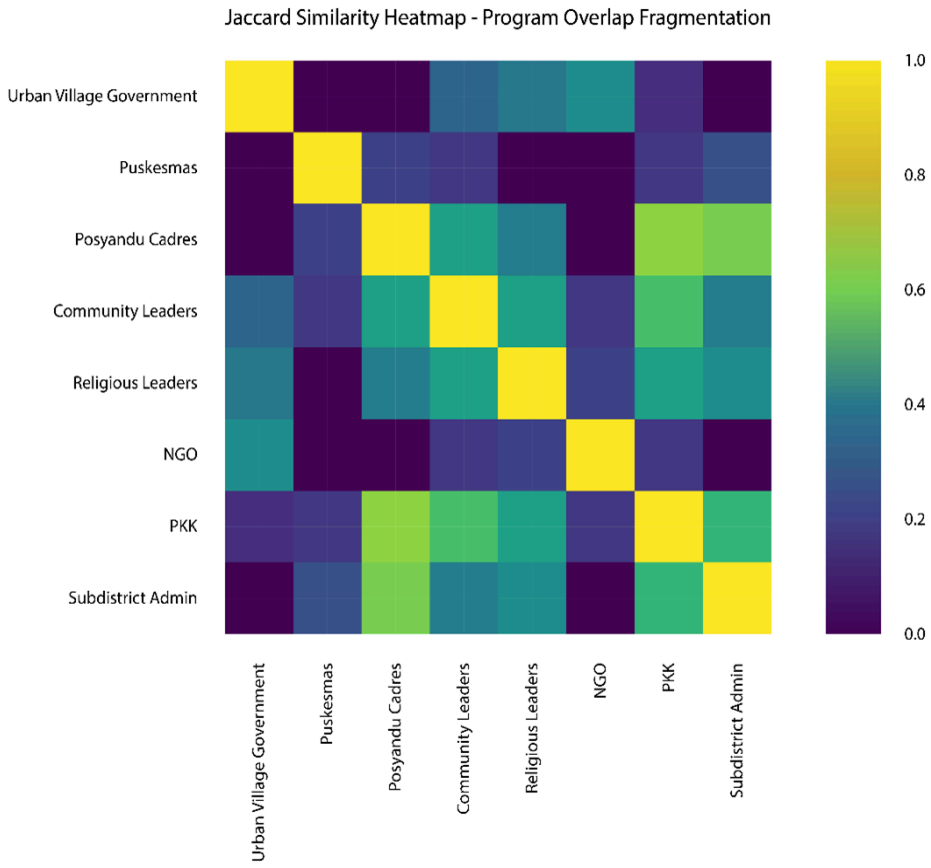


Figure 3. Inter-Actor Program Fragmentation

Source: Authors' analysis, data processed. (2026)

Figure 3 depicts the degree of program similarity among various actors involved in stunting reduction at the local level. The color intensity in the figure reflects the extent of overlap in the programs implemented by each stakeholder. Higher similarity values indicate greater program alignment and potential for synergistic collaboration, while lower similarity values indicate a high degree of fragmentation and siloed interventions. The distribution pattern shown in this heatmap clearly indicates minimal overlap across programs, indicating parallel interventions that do not converge toward a unified outcome pathway. This confirms that program alignment remains weak across institutional boundaries.

The figure reveals that while some actors may have moderate overlap within specific intervention clusters, the pattern is sporadic and non-systemic. This suggests that stunting reduction is still treated as a sectoral undertaking within each institution, rather than as an integrated multi-actor and multi-sectoral agenda. Therefore, the effectiveness of the stunting governance ecosystem depends not only on the quality of each actor's interventions, but also on how effectively their programs can be connected, synchronized, and mutually reinforcing. Without integrated program design, the expected cumulative and systemic effects of multi-actor efforts will not be realized, even when all actors are technically involved (Cronin et al., 2022).

This figure shows that the stunting intervention process is not yet guided by a problem-based and results-oriented logic, but rather follows sectoral routines and program mandates. Health-related actors may focus on anthropometric monitoring, while community and religious leaders emphasize social persuasion and value-based behavior change, while government actors focus more on administrative facilitation. However, without joint program design and integration of multi-actor programs, a

systemic impact chain cannot be established. This figure indicates that alignment across strategic program domains remains suboptimal.

This evidence suggests that fragmentation is not merely structural or bureaucratic, but rather embedded in the architecture of field-level intervention programs. Governance barriers arise not only from institutional rigidities and sectoral separation, but also from the lack of integrated intervention design. In the context of stunting, programs that would ideally be interconnected across the chain of determinants do not occupy a shared intervention space. Programs fail to reinforce each other, resulting in a lack of cumulative impact along the causal chain necessary to comprehensively address stunting.

Such program fragmentation also impacts data governance, resource allocation, and coordination efficiency. When programs are run independently without cross-program planning mechanisms, each actor allocates resources separately, preventing optimization and limiting the potential for shared benefits. This leads to divergent problem interpretations, divergent priorities, and divergent intervention responses (Beck et al., 2016). The heatmap shows that fragmentation is not conceptual, but rather manifests empirically in the system of program relationships among stunting actors at the local level.

This graph underscores the necessity of re-designing the process of program integration in order to avoid trapping governance in sectoral silos. The use of the Jaccard Similarity Heatmap to show that there is a low overlap of the actors supports the idea that structural fragmentation is one of the key barriers to integration for stunting reduction. Without meta-governance mechanisms capable of enforcing alignment, facilitating program convergence, and aligning intervention architectures, collaborative governance will remain symbolic rather than substantive. Therefore, this heatmap provides an empirical basis for calling for a restructuring of governance that allows interventions to shift from sectoral biases to comprehensive multi-actor orchestration capable of producing synergistic outcomes.

Government Influence and Coordination Processes within Institutions, Dynamics of Participation and Interdependence of Stakeholders in Multi-party Collaboration, and Barriers to Governance and Structural Division that Hamper Integrated Stunting Reduction Initiatives. The three subtopics above are both conceptually and empirically linked as they discuss the ways governance processes and stakeholder participation impact the efficiency of stunting management in Loktuan Urban Village, North Bontang. In total, they provide a holistic analytical framework that illustrates the shortcomings and potential for constructing governance cooperation at the local level. This analysis is based on the assumption that the problem of stunting is not only due to resource scarcity or non-existence of related programs but rather inability of the government to manage and coordinate the participating institutions and stakeholders (Nugroho et al., 2025; Sitaresmi et al., 2023).

The first section, on government direction and institutional coordination mechanisms, explains that although the urban village government holds a formal role as a policy director, it has not yet functioned effectively as a meta-governor capable of integrating direction and actions across participating actors. Coordination remains largely administrative and procedural, rather than a strategic forum for joint policy formulation or alignment of priorities between institutions. As a result, programs implemented by the health, social, and environmental sectors run in parallel without achieving synergistic impact. This situation suggests that the core governance problem in addressing stunting in Loktuan lies not in the absence of programs, but rather in the lack of integrated leadership and coordination

mechanisms that can transform fragmented sectoral activities into a collaborative intervention system that produces interconnected outcomes.

The second section, on the dynamics of stakeholder engagement and interdependence in multi-actor collaboration, highlights that despite the involvement of many actors—including urban village governments, puskesmas, posyandu cadres, community leaders, religious leaders, and non-governmental organizations—their participation has not yet developed into substantive collaboration. Stakeholder engagement remains ceremonial and activity-based, rather than driven by shared accountability for stunting reduction outcomes. Interactions between actors are still dominated by their respective institutional routines, without established mechanisms for collective learning or reflection that could improve the quality of interventions. In other words, collaboration in Loktuan is still formalistic rather than transformative, thus preventing the realization of potential synergy between actors in the practice of regional governance as a whole.

The third part about the obstacles of governance and structural fragmentation related to the reduction of stunting indicates that the main reason why programs are not implemented effectively is in the mismatch between mandates, sectoral interests, and allocation of resources. Every organization acts independently; thus, there is duplication of programs and lack of information integration needed for evidence-based decisions. In addition, due to the absence of meta-governance coordination at the local level, the collaboration is based on the initiative of individuals and not on institutional arrangements. Thus, there is a disparity between the multisectoral approach in national policy and sectoral approach in local implementation. Therefore, we conclude that improving stunting governance requires a transformation from administrative coordination to substantive collaboration based on integrated data systems, clearly defined role distribution, and shared accountability for human development outcomes at the local level

4. Conclusion

In summary, it can be concluded that the problem of stunting in Loktuan Urban Village, North Bontang, is not about the lack of programs and resources, but about the failure of orchestration and coordination of governance among government organizations and other stakeholders involved. We highlight the fact that even though there are many stakeholders involved in addressing the problem of stunting and the interventions used are diverse, their efforts are isolated, procedural, and sectoral, thus making little difference in overall results. In this respect, the successful resolution of the problem demands from the government to take the role of the meta-governor which will be able to orchestrate coordinated efforts based on collaboration and cooperation between all parties involved in the process.

References

Afandi, M. N., Tri Anomsari, E., Setiyono, B., Novira, A., & Sutiyono, W. (2024). Self-organizing volunteers as a grassroot social innovation: the contribution and barrier to empowerment and collaborative governance in stunting intervention. *Development Studies Research*, 11(1). https://doi.org/10.1080/21665095.2024.2357102

Agbana, T. M. (2025). Co-producing person-centred care services with faith leaders and cultural advocates in diverse adult care settings. *International Journal of Computer Applications Technology and Research*, 14(8), 80–96. https://doi.org/10.7753/IJCATR1408.1008

Allen, C., Malekpour, S., & Mintrom, M. (2023). Cross-scale, cross-level and multi-actor governance of transformations toward the Sustainable Development Goals: A review of common challenges and solutions. *Sustainable Development*, 31(3), 1250–1267. https://doi.org/10.1002/sd.2495

Alnajem, A. A. Q. I. (2024). The role of grassroots movements in achieve community sustainability. *MEDAAD*, 2024, 15–20. https://doi.org/10.70470/MEDAAD/2024/003

Amadi, A. (2023). Integration in a mixed-method case study of construction phenomena: from data to theory. *Engineering, Construction and Architectural Management*, 30(1), 210–237. https://doi.org/10.1108/ECAM-02-2021-0111

Apostolopoulou, E., Bormpoudakis, D., Chatzipavlidis, A., Cortés Vázquez, J. J., Florea, I., Gearey, M., Levy, J., Loginova, J., Ordner, J., Partridge, T., Pizarro, A., Rhoades, H., Symons, K., Veríssimo, C., & Wahby, N. (2022). Radical social innovations and the spatialities of grassroots activism: navigating pathways for tackling inequality and reinventing the commons. *Journal of Political Ecology*, 29(1), 144–188. https://doi.org/10.2458/jpe.2292

Bandola-Gill, J., Arthur, M., & Leng, R. I. (2023). What is co-production? Conceptualising and understanding co-production of knowledge and policy across different theoretical perspectives. *Evidence & Policy*, 19(2), 275–298. https://doi.org/10.1332/174426421X16420955772641

Beck, S. R., Williams, C., Cutting, N., Apperly, I. A., & Chappell, J. (2016). Individual differences in children's innovative problem-solving are not predicted by divergent thinking or executive functions. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1690), Article 20150190. https://doi.org/10.1098/rstb.2015.0190

Beycioglu, K., & Kondakci, Y. (2021). Organizational change in schools. *ECNU Review of Education*, 4(4), 788–807. https://doi.org/10.1177/2096531120932177

Braithwaite, J., Churruca, K., Long, J. C., Ellis, L. A., & Herkes, J. (2018). When complexity science meets implementation science: A theoretical and empirical analysis of systems change. *BMC Medicine*, 16(1), Article 63. https://doi.org/10.1186/s12916-018-1057-z

Bridoux, F., & Stoelhorst, J. W. (2022). Stakeholder governance: Solving the collective action problems in joint value creation. *Academy of Management Review*, 47(2), 214–236. https://doi.org/10.5465/amr.2019.0441

Brownson, R. C., Fielding, J. E., & Green, L. W. (2018). Building capacity for evidence-based public health: Reconciling the pulls of practice and the push of research. *Annual Review of Public Health*, 39(1), 27–53. https://doi.org/10.1146/annurev-publhealth-040617-014746

Claggett, J. L., & Karahanna, E. (2018). Unpacking the structure of coordination mechanisms and the role of relational coordination in an era of digitally mediated work processes. *Academy of Management Review*, 43(4), 704–722. https://doi.org/10.5465/amr.2016.0325

Corbett, J., & Howard, C. (2017). Why perceived size matters for agency termination. *Public Administration*, 95(1), 196–213. https://doi.org/10.1111/padm.12299

Cronin, E., Fieldsend, A., Rogge, E., & Block, T. (2022). Multi-actor Horizon 2020 projects in agriculture, forestry and related sectors: A Multi-level Innovation System framework (MINOS) for identifying multi-level system failures. *Agricultural Systems*, 196, Article 103349. https://doi.org/10.1016/j.agsy.2021.103349

de Wit, L., Fenenga, C., Giammarchi, C., di Furia, L., Hutter, I., de Winter, A., & Meijering, L. (2018). Community-based initiatives improving critical health literacy: A systematic review and meta-synthesis of qualitative evidence. *BMC Public Health*, 18(1), Article 40. https://doi.org/10.1186/s12889-017-4570-7

Enger, S. G., & Gulbrandsen, M. (2020). Orchestrating collaborative projects: Inside ICT networks in Horizon 2020. *Science and Public Policy*, 47(3), 396–409. https://doi.org/10.1093/scipol/scaa021

Fang, T. P., Wu, A., & Clough, D. R. (2021). Platform diffusion at temporary gatherings: Social coordination and ecosystem emergence. *Strategic Management Journal*, 42(2), 233–272. https://doi.org/10.1002/smj.3230

Goi, M., Salmah, A. U., Jafar, N., Ilham, A. A., Stang, S., Safar, M., & Mallongi, A. (2024). Cross-sector collaboration in addressing stunting in Indonesia. *Pharmacognosy Journal*, 16(6), 1424–1430. https://doi.org/10.5530/pj.2024.16.229

Gupta, C., Campbell, D., Munden-Dixon, K., Sowerwine, J., Capps, S., Feenstra, G., & Van Soelen Kim, J. (2018). Food policy councils and local governments: Creating effective collaboration for food systems change. *Journal of Agriculture, Food Systems, and Community Development*, 8(B), 11–28. https://doi.org/10.5304/jafscd.2018.08B.006

Hogl, K., Kleinschmit, D., & Rayner, J. (2016). Achieving policy integration across fragmented policy domains: Forests, agriculture, climate and energy. *Environment and Planning C: Government and Policy*, 34(3), 399–414. https://doi.org/10.1177/0263774X16644815

Hsieh, Y.-Y., & Vergne, J.-P. (2023). The future of the web? The coordination and early-stage growth of decentralized platforms. *Strategic Management Journal*, 44(3), 829–857. https://doi.org/10.1002/smj.3455

Jeleel-Ojuade, A. (2024). The role of information silos: An analysis of how the categorization of information creates silos within financial institutions, hindering effective communication and collaboration. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4881342

Klein, P. G., Mahoney, J. T., McGahan, A. M., & Pitelis, C. N. (2019). Organizational governance adaptation: Who is in, who is out, and who gets what. *Academy of Management Review*, 44(1), 6–27. https://doi.org/10.5465/amr.2014.0459

Knowles, S. E., Allen, D., Donnelly, A., Flynn, J., Gallacher, K., Lewis, A., McCorkle, G., Mistry, M., Walkington, P., & Drinkwater, J. (2021). More than a method: Trusting relationships, productive tensions, and two-way learning as mechanisms of authentic co-production. *Research Involvement and Engagement*, 7(1), Article 34. https://doi.org/10.1186/s40900-021-00262-5

Kretschmer, T., Leiponen, A., Schilling, M., & Vasudeva, G. (2022). Platform ecosystems as meta-organizations: Implications for platform strategies. *Strategic Management Journal*, 43(3), 405–424. https://doi.org/10.1002/smj.3250

Lu, H., & Carter, A. (2023). Emergent regional collaborative governance in rural local food systems development. *Community Development*, 54(2), 228–256. https://doi.org/10.1080/15575330.2022.2135550

Mauli, S., Maelaua, J., Reeve, E., Thow, A. M., Johnson, E., Farrell, P., & Patay, D. (2023). Systemic capacity in food system governance in the Solomon Islands: "It's More than Just Training." *Sustainability*, 15(13), Article 10710. https://doi.org/10.3390/su151310710

Melidis, M., & Gouglas, A. (2025). Laggard by intent or constraint? Rethinking environmental implementation deficits in Greece through the Capacity–Intentionality Framework. *Environmental Policy and Governance*, 35(5), 914–927. https://doi.org/10.1002/eet.70011

Mu, R., de Jong, M., & Koppenjan, J. (2019). Assessing and explaining interagency collaboration performance: A comparative case study of local governments in China. *Public Management Review*, 21(4), 581–605. https://doi.org/10.1080/14719037.2018.1508607

Neale, B. (2021). Fluid enquiry, complex causality, policy processes: Making a difference with qualitative longitudinal research. *Social Policy and Society*, 20(4), 653–669. https://doi.org/10.1017/S1474746421000142

Nordbeck, R., & Steurer, R. (2016). Multi-sectoral strategies as dead ends of policy integration: Lessons to be learned from sustainable development. *Environment and Planning C: Government and Policy*, 34(4), 737–755. https://doi.org/10.1177/0263774X15614696

Nugroho, A. A., Sudrajat, A., Azmi, I. F., Ardiansyah, F., & Prasetyanti, R. (2025). Collaborative governance in Indonesia's nutritious food policy: A multi-stakeholder implementation model. *Jurnal Borneo Administrator*, 21(2), 203–218. https://doi.org/10.24258/jba.v21i2.1698

Pelletier, D., Gervais, S., Hafeez-ur-Rehman, H., Sanou, D., & Tumwine, J. (2018). Boundary-spanning actors in complex adaptive governance systems: The case of multisectoral nutrition. *The International Journal of Health Planning and Management*, 33(1), e293–e319. https://doi.org/10.1002/hpm.2468

Penney, L. S., Damush, T. M., Rattray, N. A., Miech, E. J., Baird, S. A., Homoya, B. J., Myers, L. J., & Bravata, D. M. (2021). Multi-tiered external facilitation: The role of feedback loops and tailored interventions in supporting change in a stepped-wedge implementation trial. *Implementation Science Communications*, 2(1), Article 82. https://doi.org/10.1186/s43058-021-00180-3

Raiten, D. J., & Bremer, A. A. (2020). Exploring the nutritional ecology of stunting: New approaches to an old problem. *Nutrients*, 12(2), Article 371. https://doi.org/10.3390/nu12020371

Rizkiah, F. (2023). Unlocking potential of data: A localized data-driven approach for stunting reduction in South Kalimantan Province. *Proceedings of The International Conference on Data Science and Official Statistics*, 2023(1), 683–697. https://doi.org/10.34123/icdsos.v2023i1.394

Samintang Samintang, Harpiani Hasdar, Adhiyaksa Prananda RS, Usman Usman, & Muh. Jusliandi. (2023). A systematic review: Associated factor and intervention strategy of stunting in South Sulawesi Province. *Proceeding of The International Conference of Inovation, Science, Technology, Education, Children, and Health*, 3(1), 181–197. https://doi.org/10.62951/icistech.v3i1.58

Sengchaleun, V., Kounnavong, S., & Reinharz, D. (2023). Emergence of national nutrition policy in the Lao People's Democratic Republic: An analysis of collaborations between governmental and external actors. *Tropical Medicine and Health*, 51(1), Article 43. https://doi.org/10.1186/s41182-023-00532-w

Singh, S., Miller, E., & Closser, S. (2024). Nurturing transformative local structures of multisectoral collaboration for primary health care: Qualitative insights from select states in India. *BMC Health Services Research*, 24(1), Article 634. https://doi.org/10.1186/s12913-024-11002-2

Sitaresmi, M. N., Arjuna, T., Helmyati, S., Santosa, B., & Supriyati, S. (2023). Engaging stakeholders to strengthen the local actions for stunting prevention and control in Lombok Barat. *Journal of Community Empowerment for Health*, 6(1), Article 52. https://doi.org/10.22146/jcoemph.80762

Strokosch, K., & Osborne, S. P. (2020). Co-experience, co-production and co-governance: An ecosystem approach to the analysis of value creation. *Policy & Politics*, 48(3), 425–442. https://doi.org/10.1332/030557320X15857337955214

Untung, Darmastuti, A., Tresiana, N., Duadji, N., & Rulinawaty. (2025). Promoting food security policy reform to reduce stunting through a social network strategy. *Health Behavior and Policy Review*, 12(1), 1807–1822. https://doi.org/10.14485/HBPR.12.1.2

Vir, S. C. (2016). Improving women's nutrition imperative for rapid reduction of childhood stunting in South Asia: Coupling of nutrition specific interventions with nutrition sensitive measures essential. *Maternal & Child Nutrition*, 12(S1), 72–90. https://doi.org/10.1111/mcn.12255

Webb, P., Ghosh, S., Shrestha, R., Namirembe, G., Gurung, S., Sapkota, D., Bell, W. F., Davis, D., Kennedy, E., Neupane, S., Manohar, S., & Baral, K. (2016). Measuring nutrition governance. *Food and Nutrition Bulletin*, 37(4_suppl), S170–S182. https://doi.org/10.1177/0379572116674856

Zhang, F., & Zhu, J. (2025). Beyond compliance: How disruptive innovation unleashes ESG value under digital institutional pressure. *Systems*, 13(8), Article 644. https://doi.org/10.3390/systems13080644