

COMMUNITY-DRIVEN GOVERNANCE FOR STUNTING REDUCTION IN DECENTRALIZED INDONESIA: OVERCOMING FRAGMENTATION THROUGH PARTICIPATION

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Abstract: Stunting remains a critical public health and governance challenge in Indonesia, particularly in decentralized regions such as East Lombok, where prevalence rates exceed national targets. Despite the adoption of a national convergence policy integrating health, nutrition, sanitation, and education, local implementation remains fragmented, with weak intersectoral coordination, limited community engagement, and underdeveloped accountability mechanisms. This qualitative single-case study critically examines the systemic and operational causes of fragmentation in East Lombok's stunting reduction efforts. Data were collected through 15 in-depth interviews, two focus group discussions with 20 participants, and field observations in five high-prevalence villages. Analysis employed manual matrix coding aligned with the Community-Driven Governance (CDG) model, integrating Collaborative Governance, Community-Driven Development, Social Accountability, and the SAFE Framework. Findings reveal six interconnected governance gaps: procedural rather than influential participatory decision-making, exclusionary public forums, low community data literacy, weak social accountability mechanisms, uneven leadership quality, and fragmented horizontal institutional integration. These deficiencies reinforce one another, creating a self-perpetuating cycle that limits policy effectiveness. The study proposes a CDG model operationalized through six measurable indicators to reposition communities as co-creators in governance, supported by joint planning, shared accountability, and inclusive leadership. This model offers a context-specific framework for participatory and integrated governance in stunting reduction, contributing to theoretical debates on decentralized policy implementation and providing actionable recommendations for policymakers. The findings have broader implications for achieving Sustainable Development Goals 1, 2, 3, and 17, emphasizing the need for simultaneous reforms across multiple governance dimensions.

Keywords: community-driven governance; stunting reduction; participatory governance; decentralization; Indonesia

1. Introduction

Stunting, or chronic malnutrition during early childhood, is one of Indonesia's most pressing public health concerns, with long-term implications for human development and economic productivity. According to the Indonesian Nutritional Status Survey (SSGI, 2022), the national stunting prevalence was 21.6%, with an ambitious target to reduce it to 14% by 2024 (Kustanto et al., 2024). However, this goal remains out of reach in many regions. East Lombok Regency, for instance, reported a prevalence rate of 22.3% not only higher than the national average but also above the provincial mean of West Nusa Tenggara, which stood at 16.9% (Ameline et al., 2025; Taofik et al., 2024). This disparity underscores systemic challenges in policy implementation and the urgent need for governance reform at the local level (A. R.

Herawati et al., 2025).

Geographically, East Lombok spans approximately 1,605 square kilometers and consists of 21 subdistricts and 254 villages, many of which are geographically isolated due to mountainous terrain and coastal access limitations (Halim et al., 2022). These conditions significantly affect the reach and quality of service delivery. Despite the government's adoption of a convergence policy integrating nutrition, health, sanitation, and education sectors the local implementation remains fragmented (Nawangsari et al., 2025). Poor intersectoral coordination, overlapping institutional mandates, and limited integration of program data continue to undermine policy effectiveness (D. M. Herawati & Sunjaya, 2022).

The urgency of addressing stunting in Indonesia also reflects broader commitments to achieving the Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-Being), and SDG 17 (Partnerships for the Goals). Yet, stunting is not solely a health issue; it interlinks with poverty (SDG 1), inequality (SDG 10), and weak institutional governance. Therefore, resolving stunting requires more than technical convergence; it necessitates a shift toward participatory governance that actively involves communities in the design and implementation of policies (Saharuddin et al., 2025).

Several regional case studies across Indonesia illustrate the diverse challenges and context-specific solutions associated with implementing stunting reduction policies. In the province of Yogyakarta, significant progress has been made in lowering stunting prevalence, primarily through a combination of multisectoral interventions. These included improvements in sanitation infrastructure, enhanced maternal education, reduced incidence of early marriage, and the dissemination of knowledge to mothers regarding child nutrition. Between 2013 and 2021, this multifaceted approach led to an average increase of 0.22 standard deviations in children's height-for-age z- scores (Rizky, 2025), with poverty alleviation and improved child feeding practices serving as the principal catalysts for change (Gupta et al., 2020; Siswati et al., 2022).

In contrast, the situation in Ende, East Nusa Tenggara (NTT), reveals how systemic obstacles can undermine such efforts (Javanmardi et al., 2023). A dynamic systems analysis conducted in the region identified inadequate inter-agency coordination and rigid budgeting mechanisms as key barriers to success. Despite the presence of technically sound programs, implementation faltered due to a lack of alignment among stakeholders, as depicted in causal loop diagrams (Daniel et al., 2023; Ginting et al., 2023). Similarly, in Banggai, Central Sulawesi, the existence of a convergence policy framework has not translated into effective practice. Here, program execution remains largely administrative and fails to foster genuine community engagement. Stakeholder interviews revealed a notable disconnect between policy planning and operational realities on the ground (Kyomuhangi et al., 2024). At the national level, various studies have underscored recurring issues such as weak local government support, fragmented funding streams, and a predominantly top-down governance approach. This centralized model often limits the capacity of village-level actors to respond flexibly and meaningfully to local challenges (Susanti et al., 2025). These cases collectively demonstrate that the mere adoption of convergence as a policy principle does not automatically ensure successful implementation. Rather, effective and sustainable outcomes depend on the integration

of robust community participation, adaptable financing models, and sensitivity to local cultural contexts.

International experience provides further insight into how stunting can be effectively reduced through participatory and cross-sectoral approaches. In Senegal, for instance, stunting declined by 17.9 percentage points between 1992 and 2017. This success was driven by strategic investments in maternal and child health, increased access to sanitation, decentralized planning for nutrition services, and the establishment of a comprehensive national data system (Brar et al., 2020). In Latin America, Peru presents a compelling example of policy innovation and social investment. The country reduced its stunting rate from 31.3% in 2000 to 13.1% in 2016, primarily through its integrated “Crecer” strategy and the “Juntos” conditional cash transfer program. These initiatives were reinforced by strong political commitment, administrative decentralization, and the establishment of community-based accountability mechanisms (Huicho et al., 2020). Nepal’s experience similarly highlights the value of addressing underlying social determinants. Between 1990 and 2018, Nepal reduced stunting from 61% to 34%, a change attributed to improvements in female literacy, maternal education, diversified infant and young child feeding (IYCF) practices, and a steady rise in household incomes (Siswati et al., 2022). Meanwhile, Brazil demonstrated how long-term political commitment and social protection can produce sustained improvements. From 1974 to 2007, the country lowered its stunting prevalence from 37% to 7.1% by investing in public health infrastructure, expanding access to maternal education, improving sanitation systems, and implementing robust social safety net programs such as Bolsa Família (Kac et al., 2023). Collectively, these international cases emphasize that sustainable reductions in stunting are most feasible when governments pair multi-sectoral coordination with community-driven governance, underpinned by strong political will and culturally responsive program design.

Despite progress, Indonesia’s stunting reduction strategy remains largely bureaucratic, and often fails to address the underlying structural causes of fragmentation. The current models of convergence are overly technocratic and rarely engage communities as active agents of change. There remains a clear gap in the literature and practice regarding how to reorient stunting policy toward a participatory governance ecosystem. This research aims to address these gaps by critically analyzing the current implementation of convergence policy in East Lombok, identifying systemic sources of institutional fragmentation, mapping multi-level stakeholder dynamics, and proposing a new *conceptual model Community-Driven Governance*. This model draws from four major theoretical frameworks: Collaborative Governance, Community-Driven Development, Social Accountability, and the SAFE Framework. It is operationalized through six key indicators: active community involvement in decision-making, inclusive public participation, data literacy at the community level, functional accountability mechanisms, representative local leadership, and institutional integration that places communities on an equal footing with formal governance systems.

By combining local evidence with international insights, this research aims to contribute both theoretically and practically to the advancement of inclusive governance in stunting reduction. It also supports the goals outlined in Indonesia’s National Research Master Plan, particularly in the domain of social empowerment

and evidence-based public administration reform.

The overarching goal of this research is to critically examine the implementation of the national stunting reduction policy specifically the convergence strategy within the decentralized governance setting of East Lombok Regency. Recognizing the limitations of a top-down, sector-driven model, this study seeks to explore a more inclusive, participatory framework that positions communities not merely as program recipients but as active agents in the policymaking and implementation process.

This study aims to critically examine the implementation of Indonesia's convergence policy for stunting reduction in East Lombok, focusing on coordination, resource allocation, and program coherence. It identifies the root causes of institutional and operational fragmentation, including weak accountability, policy misalignment, and limited stakeholder engagement. The research maps multi-level stakeholder dynamics from national to village level to evaluate collaboration and participation. It further develops a context-specific model called *Community-Driven Governance*, integrating theories of collaborative governance, community-driven development, and social accountability. The model includes measurable indicators to assess effectiveness in decentralized settings. Ultimately, this study seeks to advance theory and practice by promoting a participatory, integrated governance framework for stunting reduction rooted in local realities.

1. Literature Review & Theoretical Framework

Collaborative Governance (CG) has emerged as a critical paradigm for addressing complex public policy challenges that cross sectoral boundaries. Ansell and Gash (2008) conceptualize CG as a process where multiple stakeholders, including public agencies, private actors, and community representatives, engage in collective decision-making within a formal, consensus-oriented framework. The model emphasizes three core elements: *shared motivation*, *principled engagement*, and *capacity for joint action*. In the context of stunting reduction, collaborative governance offers the institutional architecture necessary to align diverse actors health services, education, sanitation, agriculture, and local government around a unified set of objectives. However, empirical studies in Indonesia indicate that such platforms often stop at the coordination stage without achieving robust accountability or ensuring the active role of communities as equal partners in policy processes. Community-Driven Development (CDD) approaches place decision-making power and resources directly in the hands of local communities. Barron et al., (2024) argue that CDD strengthens the responsiveness of development programs by integrating local knowledge, preferences, and priorities into design and implementation. This model has been widely applied in infrastructure, poverty reduction, and health programs, with evidence showing improvements in service relevance and citizen satisfaction. In stunting reduction, CDD ensures that interventions such as nutrition education, food supplementation, and water sanitation improvements are contextually appropriate and socially accepted. Nevertheless, challenges remain in ensuring meaningful participation, avoiding elite capture, and building data literacy so communities can make evidence-based decisions rather than relying solely on perceptions or traditional practices.

The Social Accountability (SA) framework underscores the role of citizen-led initiatives in monitoring and holding service providers accountable. Mechanisms such as

social audits, community scorecards, and public hearings are designed to improve transparency, reduce corruption, and enhance service delivery. SA processes have been effective in improving primary healthcare quality, reducing leakages in social protection programs, and strengthening trust between communities and governments. In the stunting reduction domain, SA tools can help track the timeliness of Posyandu services, the availability of micronutrient supplements, and the responsiveness of local health workers. However, without integration into formal planning and budgeting cycles, these mechanisms risk becoming one-off exercises with limited systemic impact.

The Social Accountability and Feedback for Evaluation (SAFE) Framework extends traditional accountability mechanisms by embedding continuous community engagement into institutional performance reviews. SAFE promotes adaptive learning, in which community feedback directly informs changes in policies, resource allocations, and service delivery standards. In stunting reduction, SAFE encourages a shift from periodic monitoring to ongoing evaluation cycles, ensuring that program adjustments are timely and responsive to evolving community needs. This approach also promotes institutional transformation, requiring public agencies to adopt participatory norms as part of their standard operating procedures rather than as temporary project requirements.

Individually, each of the four theoretical approaches addresses specific governance gaps in stunting reduction; collectively, they form a comprehensive and integrated model Community-Driven Governance (CDG).

- Collaborative Governance provides the *platform* for multi-actor engagement and consensus-building.
- Community-Driven Development supplies the *agency* and empowerment for communities to shape and lead interventions.
- Social Accountability ensures *oversight* and transparency in resource use and service provision.
- SAFE Framework embeds a *feedback loop* that institutionalizes adaptive learning and continuous improvement.

The CDG model positions communities not merely as beneficiaries but as co-creators and co-regulators of policy implementation. By combining these approaches, the model shifts governance from a bureaucratic, top-down paradigm to a participatory ecosystem in which decision-making power, information flows, and accountability mechanisms are horizontally distributed between communities and formal institutions.

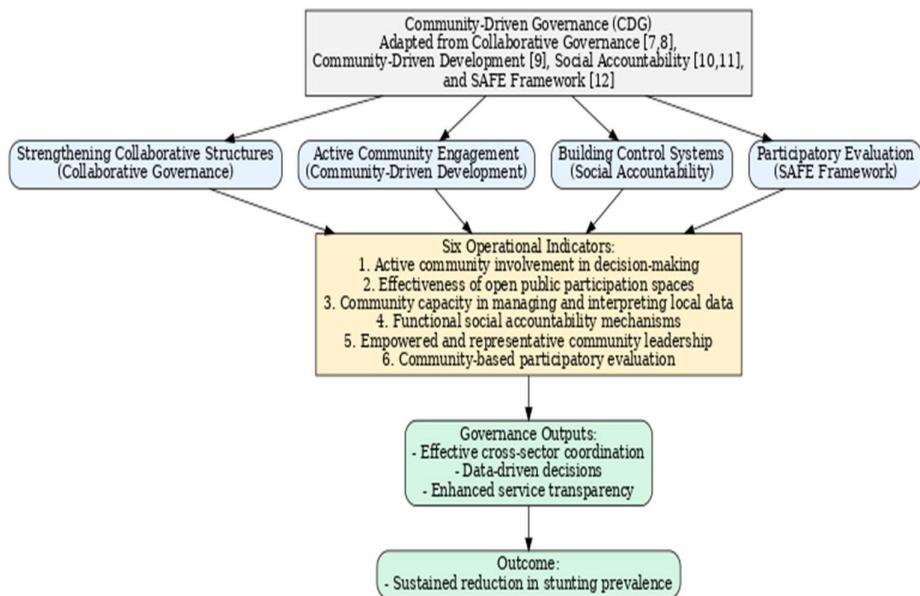


Figure 1. Conceptual Framework of the CDG Model for Stunting Reduction.

This framework integrates four complementary governance approaches Collaborative Governance, Community-Driven Development, Social Accountability, and the SAFE Framework into a unified policy implementation ecosystem. The model's six operational indicators translate theoretical principles into measurable governance practices that directly link community engagement to stunting reduction outcomes.

The maturity of CDG in practice can be assessed through six operational indicators derived from the theoretical synthesis:

- Active community involvement in decision-making- Measured by the proportion of program priorities decided through open deliberations supported by local nutrition data.
- Effectiveness of open public participation spaces - Evaluated by the frequency, inclusivity, and accessibility of public forums, particularly for marginalized groups.
- Community capacity in managing and interpreting local data - Assessed by the number of trained community members capable of analyzing service and nutrition indicators.
- Functional social accountability mechanisms -Measured by the presence and enforcement of community-led audits, scorecards, and grievance redress linked to policy adjustments.
- Empowered and representative community leadership - Evaluated by the existence of local champions with inclusive leadership practices and formal roles in governance forums.
- Community-based participatory evaluation - Measured by the regularity and effectiveness of feedback loops leading to service improvement plans.

These indicators serve both as a diagnostic tool for identifying governance gaps and as a monitoring framework for tracking progress toward a fully operational participatory ecosystem.

From the integration of these theoretical perspectives and operational indicators, the following propositions are advanced:

- P1. Higher levels of institutional integration between communities and formal governance structures (Indicator 6) are associated with greater reductions in stunting prevalence, controlling for poverty and sanitation access.
- P2. Community data literacy (Indicator 3) mediates the relationship between the effectiveness of public participation spaces (Indicator 2) and the quality of decision-making (Indicator 1).
- P3. Functional social accountability mechanisms (Indicator 4) strengthen the impact of empowered community leadership (Indicator 5) on service improvement in nutrition-related programs.
- P4. Villages with consistently high scores on decision-making participation (Indicator 1), social accountability (Indicator 4), and institutional integration (Indicator 6) achieve faster reductions in stunting prevalence than those relying on conventional top-down coordination.

2. Research Method

This study adopts a qualitative single-case study design with an embedded approach to explore fragmentation in the implementation of Indonesia's stunting reduction policy under the convergence framework in East Lombok Regency. A single-case design was chosen for its capacity to investigate complex governance phenomena in their real-life context, particularly when boundaries between the phenomenon and its context are unclear (Yin, 2018). Case selection was purposive: East Lombok was chosen due to its persistently high stunting prevalence despite national convergence interventions. The district represents a typical decentralized governance setting, with diverse institutional arrangements and multi-level stakeholders, making it well-suited for examining policy implementation dynamics.

The study aimed to: (1) identify root causes of institutional and operational fragmentation, (2) examine coordination and accountability issues, and (3) explore stakeholder interactions from district to village levels. Data collection used three complementary qualitative methods to ensure triangulation (1). In-depth interviews with 15 purposively selected key informants involved in stunting-related programs, including village officials, health personnel (e.g., Posyandu cadres), local facilitators, and community leaders. Selection criteria included strategic roles, relevant experience, and knowledge of intersectoral coordination. Topics covered institutional bottlenecks, power asymmetries, policy misalignments, data gaps, and community involvement in program design and delivery. (2). Focus Group Discussions (FGDs) with 20 participants (two sessions with 10 participants each), involving cross-sectoral stakeholders from Bappeda, the District Health Office, the Social Affairs Office, village heads, and local NGOs, focusing on barriers to policy integration and opportunities to strengthen participatory governance, and, (3). Field observations in five villages with the highest stunting prevalence, selected to capture diverse contextual

conditions. Observations covered intersectoral meetings, Posyandu activities, service delivery mechanisms, and community mobilization, providing contextual validation for interview and FGD data.

Data analysis applied manual matrix coding using NVivo 12, aligning all coded evidence with the six dimensions of the Community-Driven Governance (CDG) model. This structured thematic analysis identified recurring patterns such as coordination gaps, fragmented roles, weak accountability chains, and community marginalization in decision-making. Triangulation across interviews, FGDs, and observations enhanced the credibility and validity of findings (Patton, 2015).

The study outcome was the development of a preliminary CDG model grounded in empirical evidence, comprising six dimensions: participatory decision-making, inclusive public space, community data capacity, social accountability mechanisms, representative local leadership, and horizontal institutional integration. These dimensions are informed by Collaborative Governance (Ansell & Gash, 2008), Community-Driven Development (McCarthy et al., 2016), Social Accountability (Fox, 2015), and the SAFE Framework, adapted to Indonesia's decentralized policy context.

By employing a single-case, embedded qualitative design with manual matrix coding, this study generates contextualized insights and practical recommendations to address governance gaps in stunting policy implementation. The East Lombok case serves as a microcosm of broader institutional challenges in Indonesia and provides a foundation for theorizing participatory governance models in other decentralized contexts.

Below is presented Figure 2. regarding the Research Procedure, and Table 1. regarding the List of Key Informants.

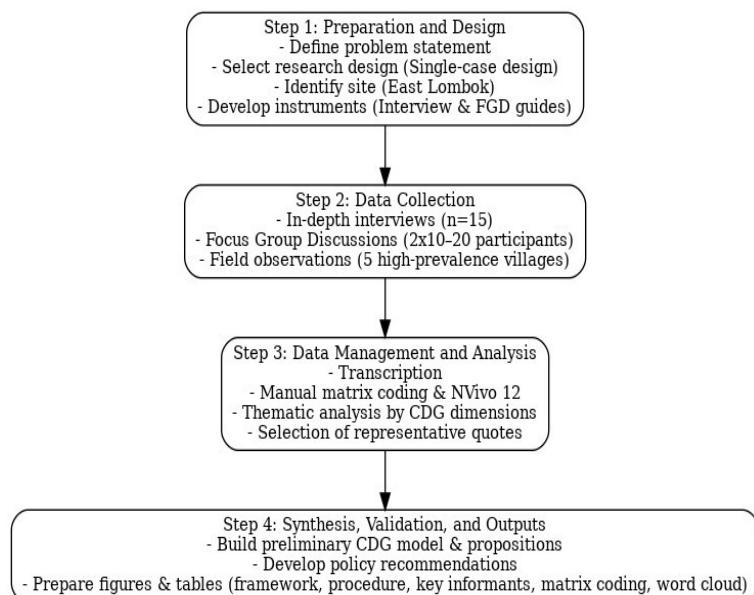


Figure 2. The Research Procedure

Table 1. List of Key Informants

No.	Informant Code	Institution/Role	Level
1	KI01	Regional Planning Agency (Bappeda)	District
2	KI02	District Health Office	District
3	KI03	Social Affairs Office	District
4	KI04	Village Head A	Village
5	KI05	Village Head B	Village
6	KI06	Village Midwife	Village
7	KI07	Community Facilitator A (PKH)	Village
8	KI08	Community Health Cadre (Posyandu)	Village
9	KI09	Religious Leader	Village
10	KI10	Women's Group Leader (PKK)	Village
11	KI11	NGO Representative	District/Village
12	KI12	District Family Planning Coordinator	District
13	KI13	Local Health Centre (Puskesmas) Coordinator	Sub-district
14	KI14	Community Leader (Tokoh Masyarakat)	Village
15	KI15	Sub-district Coordinator (PLKB)	Sub-district
16	KI16	Nutritionist	Community Health centers
17	KI17	Early Childhood Education Teacher (PAUD)	Village
18	KI18	Village Youth Representative	Village
19	KI19	Head of Community Empowerment Department	District
20	KI20	Village Development Assistant	Sub-district
21	KI21	Traditional Birth Attendant	Village
22	KI22	Local Parliament Member (DPRD)	District

2. Findings and Analysis

This section presents empirical findings from the East Lombok case study, structured according to the six dimensions of the Community-Driven Governance (CDG) Model: (1) Participatory Decision-Making, (2) Inclusive Public Space, (3) Community Data Capacity, (4) Social Accountability Mechanisms, (5) Representative Local Leadership, and (6) Horizontal Institutional Integration. Evidence is drawn from in-depth interviews, FGDs, and observations, with direct

quotes from key informants in Table 1 to strengthen the analysis.

a. Participatory Decision-Making

Although village-level planning forums (*Musrenbang Desa*) exist, participation is often procedural rather than influential. Community members especially women and marginalized groups rarely see their proposals reflected in final plans. Village heads and sectoral officers still dominate decisions, aligning priorities with top-down directives.

A health cadre (KI-07) expressed frustration:

"We submit proposals every year, but in the end, what is approved is what the sector already planned. Our nutrition education request was not even discussed."

Similarly, a village facilitator (KI-03) admitted:

"Participation is more about attending meetings, not deciding what really gets done."

This shows a participation gap, where formal inclusion exists but lacks real influence on resource allocation.

b. Inclusive Public Space

Formal participatory platforms are not fully accessible to all. Meetings are often held during working hours and use technical language that alienates non-officials. Women's groups, youth representatives, and remote hamlet residents are frequently absent.

A local NGO representative (KI-14) explained:

"Meetings are dominated by officials. People from remote hamlets don't come because they can't leave their work, and even if they come, the discussion is full of jargon."

Field observations confirmed that most convergence meetings were male-dominated, with minimal grassroots representation. This limits the diversity of perspectives, undermining the inclusive ethos of governance.

c. Community Data Capacity

Village-level data systems remain fragmented. Health data from Posyandu is collected regularly but seldom analyzed locally. Communities often act as passive data collectors for higher-level agencies without receiving analytic feedback.

A Posyandu cadre (KI-05) stated:

"We record children's weight and height every month, but we never know what happens to that data. We only hear about stunting rates from the district once a year."

A district health officer (KI-10) acknowledged:

"Data analysis is done at the district level; villages don't yet have the skills or tools."

This data illiteracy weakens evidence-based decision-making and reduces local ownership of stunting interventions.

d. Social Accountability Mechanisms

Accountability tools such as budget transparency boards exist but are inconsistently maintained. Many boards are outdated or placed in inaccessible locations. Public awareness of monitoring rights is low, and grievance channels are informal.

A village official (KI-02) admitted:

"We post the budget, but honestly, people rarely ask. If they have complaints, they tell us personally, not in official forums."

A women's group leader (KI-09) noted:

"We don't know the details of the nutrition program budget. We only see the activities when they happen."

This asymmetry in information favors officials and reduces downward accountability.

e. Representative Local Leadership

Leadership quality and commitment vary widely across villages. Some leaders actively engage with community groups, while others limit themselves to administrative compliance.

A proactive village head (KI-01) shared:

"We formed a local nutrition task force. Farmers supply vegetables, cadres run cooking demos, and women's groups help with distribution. It works because we involve everyone."

In contrast, a local facilitator (KI-06) observed:

"Some village heads just wait for district programs. They don't mobilize the community unless instructed."

Representation gaps persist, with leadership structures often male-dominated and lacking youth involvement.

f. Horizontal Institutional Integration

Although convergence policy promotes cross-sector collaboration, integration remains weak. Sectoral programs still operate in silos, with coordination limited to periodic meetings.

A district convergence coordinator (KI-11) admitted:

"We meet every quarter, but follow-up is weak. Health works on their own, social affairs on their own. There's no joint action plan."

A village head (KI-04) added:

"Sometimes activities overlap two programs give similar food aid, while sanitation problems are ignored."

2.1. Synthesis of Findings

This reflects a coordination gap that undermines the multi-sectoral approach essential for effective stunting reduction. These six dimensions of the CDG model are further illustrated through key informant testimonies, which capture the lived experiences, perceived barriers, and opportunities for reform in East Lombok's stunting governance. **Table 2** synthesizes selected quotes that exemplify the challenges and dynamics discussed above, providing direct evidence from multiple stakeholder perspectives.

Table 2. Key Informant Quotes Supporting the Six Dimensions of the CDG Model

CDG Dimension	Key Informant Code	Quote
1. Participatory Decision-Making	KI-07 (Health Cadre)	"We submit proposals every year, but in the end, what is approved is what the sector already planned. Our nutrition education request was not even discussed."
	KI-03 (Village Facilitator)	"Participation is more about attending meetings, not deciding what really gets done."
2. Inclusive Public Space	KI-14 (Local NGO Representative)	"Meetings are dominated by officials. People from remote hamlets don't come because they can't leave their work, and even if they come, the discussion is full of jargon."
	Observation Note	"Most convergence meetings were male-dominated, with minimal grassroots representation."
3. Community Data Capacity	KI-05 (Posyandu Cadre)	"We record children's weight and height every month, but we never know what happens to that data. We only hear about stunting rates from the district once a year."
	KI-10 (District Health Officer)	"Data analysis is done at the district level; villages don't yet have the skills or tools."
4. Social Accountability Mechanisms	KI-02 (Village Official)	"We post the budget, but honestly, people rarely ask. If they have complaints, they tell us personally, not in official forums."
	KI-09 (Women's Group Leader)	"We don't know the details of the nutrition program budget. We only see the activities when they happen."

5. Representative Local Leadership	KI-01 (Village Head)	"We formed a local nutrition task force. Farmers supply vegetables, cadres run cooking demos, and women's groups help with distribution. It works because we involve everyone."
	KI-06 (Local Facilitator)	"Some village heads just wait for district programs. They don't mobilize the community unless instructed."
6. Horizontal Institutional Integration	KI-11 (District Convergence Coordinator)	"We meet every quarter, but follow-up is weak. Health works on their own, social affairs on their own. There's no joint action plan."
	KI-04 (Village Head)	"Sometimes activities overlap—two programs give similar food aid, while sanitation problems are ignored."

The six CDG dimensions in East Lombok are deeply interconnected, where weaknesses in one such as data capacity or inclusivity constrain progress in others. Participation remains largely procedural, inclusivity is hampered by logistical, linguistic, and socio-cultural barriers, local actors collect but seldom analyze data, accountability mechanisms are underutilized, leadership capacity is uneven, and horizontal integration is weak, resulting in duplication and neglect in service delivery. These issues reinforce one another: weak participation limits data ownership and accountability; limited inclusivity marginalizes vulnerable groups; and poor coordination undermines the multi-sectoral approach required for stunting reduction.

Addressing these gaps demands simultaneous reforms: embedding feedback loops in participatory processes; making public spaces physically, socially, and linguistically accessible; enhancing village-level data literacy and analytic capacity; institutionalizing downward accountability beyond procedural transparency; strengthening inclusive leadership pipelines, particularly for women and youth; and shifting from meeting-based coordination to joint planning and budgeting. The CDG model offers a cohesive governance framework by positioning community actors as equal partners, supported by institutional arrangements that integrate participation, capacity, accountability, leadership, and cross-sector collaboration.

2.2. Analysis

2.2.1. Manual Matrix Coding Analysis – CDG Model for Stunting Reduction

To further validate and systematize these findings, the qualitative data from all key informant interviews were analyzed using a manual matrix coding approach. This technique enables a structured comparison across the six dimensions of the Community-Driven Governance (CDG) model, highlighting how specific themes, challenges, and enabling factors interrelate. The resulting matrix (Table 3) synthesizes coded excerpts from multiple informants, providing transparent evidence of how each dimension emerged from the data and how they collectively shape the governance dynamics of stunting reduction in East Lombok.

Table 3. Manual Matrix Coding – CDG Model for Stunting Reduction in East Lombok

CDG Dimension	Sub-theme / Code	Key Informant Quote	Interpretation / Analysis
1. Participatory Decision-Making	Tokenistic participation	"Community-initiated nutrition education programs were excluded from the final plan." (KI-07)	Participation is merely formal; final decisions remain dominated by district-level sector priorities.
	Top-down influence	"FGDs confirmed that decision-making remains top-down."	Village deliberation mechanisms exist but provide no real space for citizens to influence policy.
2. Inclusive Public Space	Geographic & logistic barriers	"Remote hamlet residents, particularly women, face difficulties in attending meetings due to work obligations." (KI-14)	Geographic constraints and workload limit attendance by vulnerable groups.
	Gender imbalance	"Male-dominated discussions, with grassroots participants rarely speaking."	Gender gaps limit diversity of perspectives in policy discussions.
3. Community Data Capacity	<i>Centralized data analysis</i>	<i>"Villages rely on annual reports from the district for stunting prevalence updates." (KI-05)</i>	<i>Village-level data analysis capacity is low; reliance on district reports persists.</i>
	<i>Underutilization of local data</i>	<i>"Anthropometric data is recorded</i>	<i>Large amounts of data are collected</i>

		<i>monthly, but not analyzed locally." (KI-10)</i>	<i>but not used for rapid decision-making.</i>
4. Social Accountability Mechanisms	<i>Low public oversight</i>	<i>"Community members rarely engage in budget scrutiny." (KI- 02)</i>	<i>Transparency mechanisms (e.g., budget boards) exist but citizen participation is minimal.</i>
	<i>Limited access to program info</i>	<i>"Detailed financial information about nutrition programs remains inaccessible." (KI-09)</i>	<i>Lack of openness hinders effective public oversight.</i>
5. Representative Local Leadership	<i>Proactive leadership</i>	<i>"Mobilized diverse actors in a local nutrition task force." (KI-01)</i>	<i>Proactive village leaders can mobilize multi-actor collaboration.</i>
	<i>Passive leadership</i>	<i>"Some village heads rely passively on district programs." (KI-06)</i>	<i>Passive leaders tend not to leverage local resources effectively.</i>
6. Horizontal Institutional Integration	<i>Weak follow-up in coordination</i>	<i>"We meet every quarter, but follow-up is weak. Health works on their own, social affairs on their own." (KI-11)</i>	<i>Cross-sector coordination is weak; routine meetings are not followed by joint action plans.</i>
	<i>Program overlap & neglect</i>	<i>"Two programs give similar food aid, while sanitation problems are ignored." (KI-04)</i>	<i>Coordination gaps lead to duplication of aid and neglect of critical issues.</i>

The manual matrix coding results demonstrate that the six dimensions of the Community-Driven Governance (CDG) model are not only interconnected but also mutually reinforcing in ways that perpetuate systemic weaknesses in East Lombok's stunting reduction efforts. These weaknesses form a self-reinforcing cycle, where deficiencies in one dimension such as limited inclusivity or weak data capacity directly undermine progress in others.

Symbolic participation remains a critical barrier. While village forums and formal consultation mechanisms exist, they often function procedurally without real influence over final decisions. This tokenistic approach erodes community

ownership of both data and accountability processes. Inclusivity gaps further restrict impact. Geographic isolation, logistical challenges, and entrenched socio-cultural norms such as male-dominated discussions—limit opportunities for women, youth, and other vulnerable groups to engage meaningfully in governance spaces. This exclusion not only silences critical perspectives but also reduces the representativeness of policy decisions. Weak community data capacity forces villages to depend on district-level analysis, delaying responsive action. Although anthropometric and program data are collected regularly, the absence of local analytical capability prevents data from informing timely interventions. Accountability mechanisms are present in form but remain dormant in practice. Transparency tools, such as public budget boards, exist, yet citizen participation in oversight is minimal, leaving gaps in downward accountability and public scrutiny.

Leadership capacity is inconsistent. Proactive leaders demonstrate the ability to mobilize diverse stakeholders into effective action, but many local leaders remain passive, relying heavily on top-down directives and external resources. Horizontal integration is weak, with coordination meetings failing to translate into actionable joint plans. This leads to program duplication in some areas and neglect of others, fragmenting service delivery. Addressing these challenges requires simultaneous, cross-dimensional reforms: strengthening village decision-making capacity, ensuring genuinely inclusive participation, building local data literacy, institutionalizing active public accountability, fostering inclusive and proactive leadership pipelines, and shifting coordination toward integrated, action-oriented cross-sector planning and budgeting. Such systemic changes would move East Lombok closer to a truly community-driven governance model capable of sustaining stunting reduction at scale.

2.2.2. Visual Thematic Representation – Word Cloud

The combined Word Cloud and thematic network visualization offer a quick yet comprehensive snapshot of the most frequently mentioned concepts from the key informant interviews, reflecting the six dimensions of the Collaborative Development Governance (CDG) model in the East Lombok case. The keywords derived from coded interview segments using Manual Matrix Coding cover all six dimensions: participatory decision-making, inclusive public space, community data capacity, social accountability mechanisms, representative local leadership, and horizontal institutional integration.

In the Word Cloud, font size corresponds to the frequency of each term, allowing readers to instantly identify dominant themes. The thematic network then arranges these terms in a spatial layout connected by lines, illustrating conceptual relationships and overlaps across dimensions. Together, these visuals combine the qualitative depth of interview insights with the clarity of structured thematic mapping, providing both a frequency-based emphasis and a relational perspective. This integrated approach supports a richer understanding of the findings and their policy implications. Visual Output: *Figure 5. Visual Thematic Network of CDG Model Dimensions – East Lombok Stunting Reduction* highlights the most dominant terms, with font size proportional to their frequency across all coded excerpts.

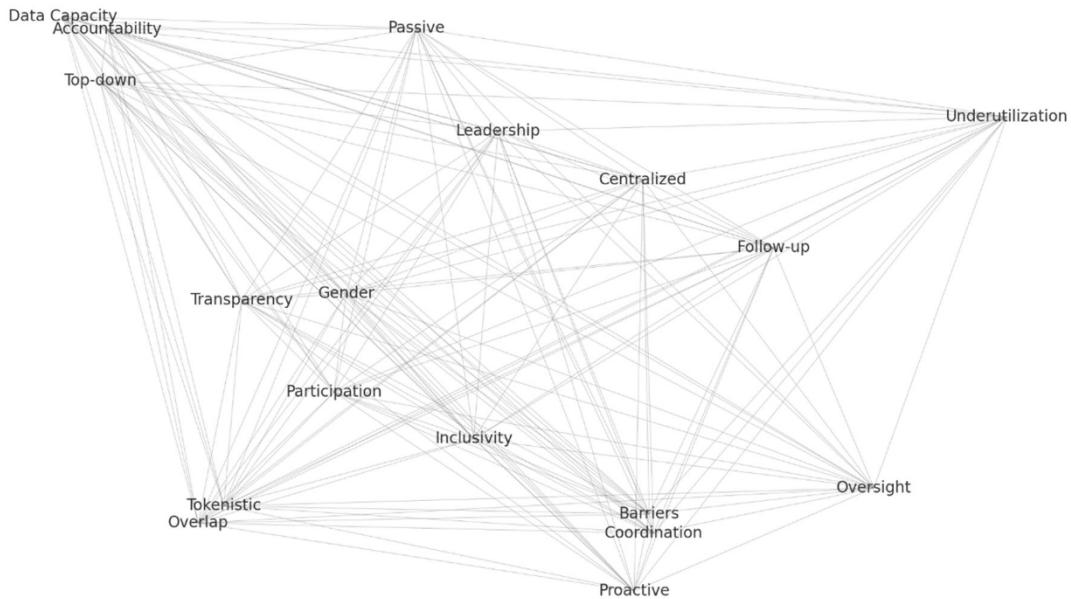


Figure 3. Visual Thematic Network of CDG Model Dimensions: East Lombok Stunting Reduction

This figure presents a visual thematic network that integrates the elements of a Word Cloud and relational mapping. The keywords extracted from the coded interview segments using Manual Matrix Coding represent all six dimensions of the Collaborative Development Governance (CDG) model: participatory decision-making, inclusive public space, community data capacity, social accountability mechanisms, representative local leadership, and horizontal institutional integration. Font size is proportional to the frequency of occurrence, while connecting lines illustrate conceptual relationships and overlaps among dimensions. This dual approach offers both a frequency-based emphasis and a visual mapping of interconnections, providing a clear thematic overview of the East Lombok stunting reduction case.

2.2.3. Discussion – Linking Findings to Literature and Policy Implications

The East Lombok case reinforces patterns that have been extensively discussed in the literature on community-driven governance. The findings reveal that participation in decision-making processes often remains symbolic rather than empowering, consistent with Mansuri and Rao's (2013) critique that such engagement tends to be procedural and exerts limited influence on actual policy outcomes. Geographic and socio-cultural barriers continue to hinder inclusivity, reflecting Cornwall's (2008) observations on exclusion within participatory spaces and underscoring the need for forums that are socially and linguistically accessible to all community groups.

Data management practices further demonstrate a dependency on centralized systems. This aligns with Open Data Watch's (2022) findings, where local actors function primarily as data collectors rather than analysts, reducing

the capacity for timely and context-specific decision-making at the village level. Similarly, accountability mechanisms, while formally present, lack active public oversight an issue highlighted by Fox (2015), who argues that transparency without engagement rarely translates into meaningful shifts in accountability.

Leadership capacity emerges as another critical factor, with outcomes strongly influenced by the variance in leadership quality across villages. This finding echoes the capacity framework proposed by Baser and Morgan (2008), in which proactive and inclusive leadership is a determinant of success, yet remains unevenly distributed. Finally, the study reveals persistent fragmentation in institutional integration, with sectoral programs operating in silos a challenge that mirrors the institutional fragmentation problem identified by Peters (2018) in multi-sector policy environments.

From a policy perspective, breaking the reinforcing cycle of these weaknesses requires simultaneous reforms across all dimensions. Participatory mechanisms should be institutionalized to ensure that community proposals are genuinely integrated into final decisions. Participation platforms must be adapted to overcome geographic and time constraints, including mobile and time-flexible formats. Building village-level data literacy and decentralizing analytical capacity would reduce over-reliance on district- level reporting. Transparency should evolve from mere disclosure to active engagement, were shared information fosters dialogue and collaborative problem-solving. Leadership pipelines need to be structured to intentionally include women and youth, thereby broadening representation. Moreover, sectoral coordination should move beyond periodic meetings toward joint budgeting, shared performance metrics, and inter- sector accountability frameworks to ensure a more cohesive approach to stunting reduction.

2.2.4. Empirical Validation of CDG Model Propositions—Findings Matrix

Table 4 summarizes the extent to which each proposition (P1–P4) is supported by the empirical evidence obtained in this study. The analysis integrates findings from in- depth interviews, focus group discussions, and field observations with available quantitative indicators. For each proposition, both the qualitative and quantitative dimensions are presented to allow a transparent assessment of the level of empirical support. This structure enables the reader to distinguish between propositions that are strongly substantiated by thematic evidence, those partially supported but lacking statistical control, and those that remain weakly evidenced due to reliance on anecdotal cases.

Table 4. Empirical Validation of Study Propositions (P1–P4)

Proposition	Key Dimensions & Indicators	Qualitative Evidence	Quantitative Evidence	Assessment
P1 – Higher levels of institutional integration between communities and formal governance structures (Indicator 6) are associated with greater reductions in stunting prevalence, controlling for poverty and sanitation access.	Indicator 6 – Institutional Integration	Interviews & FGDs show that strong vertical (district– village) and horizontal (health– education–adat) integration accelerates program delivery.	No statistical control for poverty & sanitation yet; descriptive trends suggest lower stunting in high-integration villages.	Partially supported – Strong qualitative evidence; quantitative link with controls not yet established.
P2 – Community data literacy (Indicator 3) mediates the relationship between the effectiveness of public participation spaces (Indicator 2) and the quality of decision-making (Indicator 1).	Indicators 2, 3, 1 – Participation Spaces, Data Literacy, Decision- making Quality	Villagers who understand and use ePPGBM and Posyandu data make more targeted proposals in village deliberation, improving decision quality.	No mediation model tested; correlation between Indicators 2 and 1 stronger in villages with higher Indicator 3 scores.	Supported qualitatively – Mediation pattern evident; requires statistical testing.
P3 – Functional social accountability mechanisms (Indicator 4) strengthen the impact of empowered community leadership	Indicators 4, 5 – Social Accountability, Leadership	Open budget meetings and Posyandu scorecards increase trust and amplify leaders' influence, leading to better nutrition services.	No regression/moderation analysis; village cases show concurrent high scores on 4 and 5 with stronger service outcomes.	Supported qualitatively – Moderation effect plausible; quantitative validation needed.

(Indicator 5) on service improvement in nutrition-related programs.				
P4 – Villages with consistently high scores on decision-making participation (Indicator 1), social accountability (Indicator 4), and institutional integration (Indicator 6) achieve faster reductions in stunting prevalence than those relying on conventional top-down coordination.	Indicators 1, 4, 6 – Participation, Accountability, Integration	“Champion villages” with high scores in 1, 4, 6 show rapid stunting reduction; low-score villages remain stagnant.	No comparative statistical test between high-score and low-score villages.	Weakly supported – Anecdotal case evidence; no formal comparative analysis.

As shown in Table X, the propositions vary in their level of empirical confirmation. P2 and P3 receive strong qualitative backing, revealing clear pathways through community data literacy and social accountability by which participation and leadership influence decision-making and service improvement. However, these remain to be tested with appropriate mediation or moderation models. P1 shows partial support, as institutional integration appears to correlate with stunting reduction, yet statistical control for poverty and sanitation is absent. P4 is the least substantiated, relying primarily on anecdotal evidence from “champion villages,” and thus warrants further comparative analysis. Overall, the findings underscore the potential of the Community-Driven Governance model, while highlighting areas where additional quantitative testing could provide stronger causal validation and policy relevance.

3. Conclusions

This study demonstrates that the implementation of the Collaborative Development Governance (CDG) model in East Lombok’s stunting reduction program reveals a reinforcing cycle of governance weaknesses across six key dimensions. Participatory decision-making remains largely symbolic, limiting genuine community influence on final plans. Public participation is constrained by geographic, logistical, and socio-cultural barriers, leading to exclusion of

vulnerable groups. Community data capacity is weak, with villages dependent on district-level analysis and underutilizing locally collected information. Social accountability mechanisms exist formally but lack active citizen engagement, reducing their impact on transparency and oversight. Leadership capacity varies widely, making program success dependent on individual actors rather than institutional strength. Horizontal institutional integration remains fragmented, with sectoral programs operating in silos and coordination meetings producing minimal joint action.

These interlinked weaknesses indicate that improving one dimension in isolation is unlikely to yield sustained results. Instead, reform must occur simultaneously across all six dimensions, creating mutually reinforcing governance capacities that can accelerate progress toward stunting reduction targets.

Policy Recommendations

To address these challenges, the following integrated actions are proposed:

- Institutionalize participatory decision-making by embedding community-generated proposals into official planning documents, with clear mechanisms for feedback and revision.
- Expand inclusive public spaces through mobile forums, flexible scheduling, and targeted outreach to remote areas, women, and marginalized groups.
- Strengthen community data capacity by training village officials and cadres in basic data analysis, enabling real-time decision-making based on locally collected information.
- Enhance social accountability by shifting from passive disclosure to active engagement linking budget transparency to facilitated community dialogues and follow-up monitoring.
- Develop leadership pipelines that nurture inclusive, proactive leaders, ensuring leadership quality is not contingent on individual charisma alone.
- Institutionalize horizontal integration by replacing periodic coordination meetings with joint budgeting, shared performance indicators, and enforceable inter-sector action plans.

By implementing these reforms in an integrated manner, East Lombok can move from fragmented governance toward a genuinely collaborative system capable of achieving and sustaining stunting reduction goals.

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