Collaborative Management Model in the Implementation of Indonesian's Makan Bergizi Gratis (MBG) Program in Schools

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Abstract
Makan Bergizi Gratis (MBG) is a strategic government policy aimed at improving students' nutritional status in Indonesia. This study analyzes the collaborative management model applied in the implementation of MBG in Duren Sawit District, East Jakarta, Indonesia. A qualitative case study approach was employed, with data collected through in-depth interviews with three purposively selected informants representing the district, operational, and school tiers of MBG governance, supplemented by document analysis and policy review. Data were analyzed using the Miles, Huberman, and Saldana interactive model. The findings reveal that MBG implementation in Duren Sawit has formed a collaborative governance pattern involving the district education office, SPPG, schools, community health centers, security agencies, and the environmental agency within a single cross-sector coordination forum. From the SPPG perspective, coordination encompasses data validation, organoleptic food testing, rapid-response reporting mechanisms, and multi-party crisis management. However, several critical challenges were identified: the absence of a uniform national SOP for district-level coordination, legal and hygiene gaps in catering kitchens (only 13 of 44 kitchens held hygiene certificates), unresolved waste-management integration, and the lack of a structured evaluation system. Measurable positive outcomes include an increase in first-grade students' average body weight from 25-30 kg to 33 kg after program implementation. This study proposes the Collaborative School Feeding Governance (CSFG) model, comprising five dimensions, cross-sector coordination, operational collaboration, food-quality supervision, community participation, and adaptive evaluation, as a replicable framework for effective and sustainable school feeding governance.

1. Introduction

Human resource development constitutes a primary national agenda in Indonesia, and the nutritional status of school-age children is one of its most immediate determinants. Adequate nutrition underpins cognitive development, physical health, learning concentration, and academic achievement (Nikalansooriya et al., 2025; UNICEF, 2024). Comparative evidence from school feeding research across low and middle income countries reinforces this pattern: feeding interventions are consistently linked to improved attendance, dietary diversity, and classroom concentration, even in settings where gains in anthropometric status are harder to detect in the short term (Pramesthi et al., 2025). Without systematic nutritional intervention, investments in education are persistently undermined by the biological realities of hunger and malnutrition, a concern that motivates nutrition-linked education policy throughout the Global South (Jean de Dieu et al., 2023). Quantitative evidence from beneficiary-comparison and cohort designs elsewhere reinforces this claim with measurable outcomes: school-fed adolescents in Ethiopia recorded significantly higher academic scores than non-beneficiary peers even after adjusting for socioeconomic and health-related confounders, feeding-program schools in Sri Lanka registered a 20% reduction in absenteeism alongside a 15% rise in average test scores relative to non-feeding schools, and Rwandan primary schools with feeding programs showed a positive association between meal provision and both attendance and academic performance (Janvier & Faustin, 2023; Mohammed et al., 2023; Patabendige & Senevirathne, 2026).

Indonesia's MBG exemplifies this policy logic at national scale. MBG operates as a national priority program implemented through collaboration among the central government, local governments, schools, Nutrition Fulfillment Service Units, health workers, and communities (Badan Gizi Nasional, 2025). Comparable multi-stakeholder nutrition initiatives in Indonesia have been described as combining centrally designed policy with genuinely decentralized delivery arrangements that require institutional coordination across sectors sharing no common chain of command (Nugroho et al., 2025). This complexity makes MBG not simply a feeding program

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but a governance challenge of the first order: multiple cross-sector actors must align across a lengthy distribution chain running from Nutrition Fulfillment Service Units kitchens through district coordination offices to individual classrooms in hundreds of schools. Programs of this kind are increasingly framed within global development agendas, positioned as instruments capable of simultaneously advancing multiple Sustainable Development Goals, spanning Zero Hunger, Quality Education, and Good Health and Well-being, while also generating local economic spillovers through the procurement of food from nearby producers (Assefa, 2026).

A growing body of literature situates school feeding programs within collaborative governance theory. (Ansell & Gash, 2008) define collaborative governance as a decision-making process that engages public and non-public actors in pursuit of shared goals, a framework subsequently extended by (Emerson et al., 2012) into a nested model of system context, collaborative dynamics, and collaborative action, and by (Bryson et al., 2015) into design principles for cross-sector collaboration. Empirical studies applying these frameworks to Indonesian nutrition and food-security policy find that program effectiveness depends on facilitative leadership, integrated data systems, and sustained multi-level coordination (Astuti et al., 2026; Maulana et al., 2026). Community-level studies of MBG specifically report that effective collaboration depends on two-way communication, transparency, and active community participation, alongside persistent challenges of cross-sectoral coordination and uneven regional capacity (Maruapey et al., 2026). Comparative school feeding research from Sub-Saharan Africa similarly documents that committee and district-level governance, rather than food provision alone, determines whether programs are sustained, citing recurring problems of unclear regulation, weak funding certainty, and limited multi-sector engagement (Jean de Dieu et al., 2023; Mmari et al., 2025). Within this literature, stakeholder collaboration itself, rather than food provision alone, has been identified as the strongest predictor of programme success: a study of twelve-year basic education schools in Rwanda found parental and community engagement in programme administration to be significantly associated with effective implementation, underscoring that sustained multi-actor participation, not just institutional design, determines outcomes (Ndayishimye & Dushimimana, 2024).

Despite this expanding literature, most existing research on Indonesian school feeding, including MBG, has been conducted at the level of national policy design or large-sample program evaluation (Nugroho et al., 2025; Pramesthi et al., 2025), with comparatively little attention paid to how collaborative governance is actually enacted at the micro level, within a single sub district or a single school's daily operations. How a district education office, a network of Nutrition Fulfillment Service Units kitchens, and individual schools coordinate day to day; how standard procedures are locally interpreted; how food-safety risks are monitored; and how community members are drawn into supervision, remain empirically underexamined. National level policy design and community-level participation have both received scholarly attention, but the intermediate, sub-district layer of governance, where policy meets daily implementation, has not.

This study addresses that gap through a case study of MBG implementation in Duren Sawit District, East Jakarta, a district recognized for its comparatively advanced cross-sector coordination mechanisms. The research question guiding this study is: how is the collaborative management model applied in the implementation of the MBG Program in Duren Sawit District, East Jakarta? By examining this case in detail, the study offers both analytical insight into the mechanics of sub-district-level collaborative governance and practical recommendations for strengthening MBG governance nationwide.

2. Method

This study employs a qualitative approach with a case study design (Creswell & Creswell, 2018). Data collection took place in Duren Sawit District, East Jakarta, over a six-month period, from Januari to June 2026. The location was selected because it represents an area with relatively advanced MBG implementation and notable cross-sector coordination initiatives that make it both analytically rich and practically instructive. Duren Sawit hosts 44 Nutrition Fulfillment Service Units kitchen serving 418 schools, making it one of the larger implementation contexts in East Jakarta.

Informants were selected using purposive sampling, a technique suited to case study research in which participants are chosen deliberately for their direct knowledge of, and responsibility for, the phenomenon under study rather than for statistical representativeness (Creswell & Creswell, 2018). Three key informants were included, each representing a structurally distinct tier of MBG governance: (1) the Head of the District Education Unit, providing governance perspectives at the district coordination level; (2) the Nutrition Fulfillment Service Units Sub-district Coordinator, providing operational perspectives on cross-sector collaboration, food distribution management, and kitchen-level quality assurance; and (3) a school-level MBG Coordinator, providing field-level perspectives on food reception, organoleptic testing, and daily distribution logistics. Three informants were considered sufficient because each occupies a non-overlapping position within the governance chain under study; together they provide triangulated coverage of the district, operational, and school tiers that constitute the object of analysis, consistent with case study guidance that prioritizes informational depth and structural coverage over numerical breadth (Creswell & Creswell, 2018). To protect participant confidentiality,

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informants and the schools referenced in their accounts are identified by role and letter code rather than by name.

Data were collected through in-depth interviews, participatory observation, and document analysis. The documents analyzed included: MBG standard operating procedure circulars issued by the National Nutrition Agency; kitchen hygiene certification records for the 44 Nutrition Fulfillment Service Units operating in the district; minutes of the weekly cross-sector coordination meeting; parental consent forms for MBG participation; and daily kitchen distribution reports submitted through the coordination messaging group. Sample interview questions included: "How is the collaborative model between Nutrition Fulfillment Service Units, schools, and the sub-district government designed?"; "What coordination mechanisms ensure that food distribution is timely and accurately targeted?"; "How are standard operating procedures developed and disseminated to stakeholders?"; "What are the main challenges in maintaining food quality and safety at a mass-distribution scale?"; and "How is program monitoring and evaluation conducted at the school level?"

Data analysis used the interactive model of (Miles et al., 2014) through three stages: data reduction, data display, and conclusion drawing/verification. This iterative analytical approach allowed the research team to move recursively between interview transcripts, field observations, and emerging theoretical frameworks until a coherent analytical account was reached. Data validity was maintained through source triangulation, cross-referencing accounts from the district, school, and Nutrition Fulfillment Service Units informants, and member checking, in which preliminary findings were shared with informants for verification and correction.

3. Results and Discussion

3.1. Collaboration Design and Cross-Sector Coordination

Interview data from the Head of the District Education Unit indicate that MBG implementation in Duren Sawit began with a cross-sector coordination mechanism that, according to the informant, has no equivalent in other districts. The informant initiated a communication group linking the sub-district head, the Community Health Center Director, the social welfare coordinator, the local police station and police resort, all Nutrition Fulfillment Service Units kitchen chiefs, and the Environmental Agency.

> "Until now we continue to coordinate, we even created a group that includes the District Head, the Community Health Center Director… all Nutrition Fulfillment Service Units Chiefs are in one coordination group. And it seems that Duren Sawit is the only district that has such a group; other areas apparently do not yet. Because I want all parties to become champions of this government program, so everyone must be involved."

This account indicates that the forum functions as more than a communication channel: it also operates as a supervision and crisis-management mechanism. When a food-poisoning incident occurred, the group enabled a rapid, coordinated response, directing affected students to three separate public hospitals simultaneously.

Interpreted against collaborative governance theory, this finding is consistent with (Emerson et al., 2012) argument that institutional capacity and inter-party trust are prerequisites for sustainable collaboration: without the pre-existing communication infrastructure, the response to the poisoning incident would plausibly have been slower and more fragmented. Their integrative framework conceptualizes collaboration through three nested dimensions, system context, collaborative dynamics, and collaborative action and outcomes, of which the Duren Sawit case illustrates the dynamics dimension in particular: trust, shared commitment, and habitual communication accumulated through the group's routine operation (Emerson & Nabatchi, 2015).

From the Nutrition Fulfillment Service Units Sub-district Coordinator's account, collaboration is structured across three institutional tiers. At the school level, institutions act as distribution facilitators that validate daily student attendance data and provide clean serving areas and meal distribution spaces. At the district government level, the district education office verifies demographic data on program beneficiaries, school children, toddlers, and pregnant or nursing mothers, and mediates conflicts between parties. At the vendor level, private-sector partners and raw-material suppliers provide operational support and contribute through corporate social responsibility programs. This tri-level architecture creates a degree of accountability that is absent from less structured implementation environments.

A critical coordination challenge identified by the Nutrition Fulfillment Service Units Sub-district Coordinator concerned the initial absence of proper reporting protocols: Nutrition Fulfillment Service Units kitchens initially approached individual schools directly without notifying the district education office. The Head of the District Education Unit described this arrangement as administratively untenable, since without a record of which kitchen supplied which school, the office had no basis for accountability when incidents occurred. The response was to require all Nutrition Fulfillment Service Units to register with the district education office and join the coordination group before commencing operations, a protocol enforced through informal authority

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rather than formal regulation. The coordinator added that routine coordination meetings are also held directly with designated coordinators at each school and community health post, covering distribution volumes, delivery schedules, and food-quality standards.

3.2. Operational Mechanisme and Food Quality Supervision

From an operational perspective, the Nutrition Fulfillment Service Units Sub-district Coordinator reported that the SOPs used by Nutrition Fulfillment Service Units are developed by the National Nutrition Agency in collaboration with relevant ministries through food-safety reviews, and disseminated hierarchically through Training of Trainers (ToT) workshops and direct simulations at each kitchen service unit. These SOPs govern kitchen production standards, portioning, hygiene protocols, and initial distribution procedures. Critically, however, the informant noted that National Nutrition Agency's SOPs address kitchen-level operations without providing equivalent guidance for district-level coordination or school-level distribution management, placing the burden of designing coordination mechanisms on local initiative.

At the school level, every meal received from Nutrition Fulfillment Service Units must undergo organoleptic testing covering aroma, taste, texture, and appearance before distribution to students. Each school designates one coordinator, a teacher tasked with conducting organoleptic testing on every meal container delivered by Nutrition Fulfillment Service Units, with results reported back to the Nutrition Fulfillment Service Units as a primary input for kitchen-level quality improvement. SPPG maintains constant communication with these school coordinators regarding SOP compliance, distribution logistics, and food-suitability standards. The data dimension is equally critical: operational decisions, particularly the number of meal portions to be produced, depend entirely on regularly updated student attendance data, making accurate reporting an operational prerequisite.

Daily reporting is conducted through the coordination messaging group, where each Nutrition Fulfillment Service Units kitchen reports its menu and distribution progress every morning. Teachers and district officers act as first testers before food is given to students, and parents assist with distribution in lower-grade classes (grades 1 and 2), where students cannot yet carry their own meal containers. This layered supervision practice reflects a quality-control mechanism that operates largely through informal trust relationships rather than formal inspection protocols.

Temperature maintenance emerged as the most technically demanding operational challenge identified by the Nutrition Fulfillment Service Units Sub-district Coordinator: maintaining appropriate food temperatures from kitchen production through portioning to school delivery is essential for food safety. Menu-substitution protocols exist for delayed distribution or compromised menu quality: an application-based rapid-reporting mechanism allows kitchen managers to flag problems and trigger substitute-meal preparation. As the coordinator summarized, mitigation includes a fast-response reporting mechanism at each distribution point, provision of alternative menus when delays or quality issues occur, and complete menu replacement when required. These layered mitigation mechanisms reflect a structured approach to operational risk management that goes beyond reactive problem-solving.

3.3. Implementation Challenges: Regulation, Hygiene, and Waste Management

The most critical finding of this study is the absence of a uniform national SOP for MBG implementation at the district level. The Head of the District Education Unit emphasized the consequences of this regulatory gap: the innovations developed in Duren Sawit, the multi-party coordination group, the parental consent mechanism, and the waste-reduction initiative, emerged entirely from local leadership rather than central guidance, meaning that implementation quality across Indonesia's hundreds of MBG districts varies dramatically with the capacity and initiative of individual local leaders.

> "There is none, we were not given anything from the Education Office, there are no guidelines, which is why only Duren Sawit is implementing waste reduction the way we do. It is as if we are sent to war without weapons"

Legal and hygiene issues in catering kitchens present a serious challenge. Of the 44 Nutrition Fulfillment Service Units kitchens operating in Duren Sawit District, only 13 had obtained hygiene certification. This situation poses genuine food-safety risks, as evidenced by the food-poisoning incident described above, which notably involved a kitchen that had already obtained its hygiene certificate, underscoring that certification alone is insufficient. (Kristjansson et al., 2022) emphasize that food safety is a critical factor in school feeding programs; the certification backlog in Duren Sawit appears to reflect a systemic issue in which operational deployment preceded administrative compliance, leaving legal accountability frameworks lagging behind program realities.

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Waste management has become an unresolved structural issue. MBG was identified as the largest waste contributor in the area based on the findings of the weekly coordination meeting, and the Environmental Agency has indicated it will not continue absorbing school waste unless schools implement their own processing. However, school budgets undergoing efficiency cuts do not allow for the purchase of adequate waste-processing equipment. The parental consent mechanism, requiring parents to sign agreements authorizing their child's participation in MBG, was partly designed to reduce waste by excluding students unlikely to consume their meals, and partly to create a legal protection framework in case of food-safety incidents. This dual-purpose innovation illustrates the creative governance responses that local leaders develop in the absence of formal guidance.

3.4. Social Impact and Impact on Students

The study found measurable positive impacts of MBG on students. The Head of the District Education Unit cited body weight as the most objective indicator available, noting an increase in first-grade students' weight from an average of 25-30 kg to 33 kg after MBG implementation. Student enthusiasm for the program is relatively high, particularly for familiar menus such as chicken dishes, and the Nutrition Fulfillment Service Units coordinator confirmed that student acceptance data, tracked through school-level reporting, is used to guide menu planning, demonstrating a feedback loop between student preferences and program design.

Significant social impacts were also found, including the formation of a shared mealtime culture between teachers and students that creates social equality and closeness; teachers also receive MBG meals, which the district informant identified as creating a sense of togetherness that strengthens the school community. The reduction in students' habit of buying snacks outside school indicates that daily consumption needs are partly fulfilled, also reducing family economic burdens (Bundy et al., 2018). This secondary economic impact, freeing household budgets from discretionary snack expenditure, may be as significant to family welfare as the direct nutritional benefits.

Parental acceptance of the program ranges from 70-80% across the sampled schools, indicating strong social legitimacy: two schools registered acceptance above 80%, while a third reached approximately 75%. The consistent pattern of high acceptance across schools with different socioeconomic profiles suggests that the program meets a genuine demand, even among relatively more affluent families. The district informant interpreted lower acceptance rates as reflecting family preference rather than dissatisfaction, since some families preferred to provide their own meals. The overall pattern confirms that MBG has achieved strong community buy-in in Duren Sawit.

These findings resonate with a broader comparative literature linking school feeding to educational, and not only nutritional, outcomes. A prospective cohort study in Addis Ababa found that school-fed adolescents achieved significantly higher academic scores than non-beneficiary peers, with the advantage persisting after adjustment for socioeconomic and health-related confounders (Mohammed et al., 2023); a mixed-methods comparison in Sri Lanka reported a 20% reduction in absenteeism and a 15% increase in average test scores among students in feeding-program schools (Patabendige & Senevirathne, 2026); and survey evidence from Rwamagana District, Rwanda, similarly found feeding-program participation positively associated with attendance and academic performance (Janvier & Faustin, 2023). The present study did not collect standardized academic-performance data comparable to these designs, so a direct claim about MBG's effect on learning outcomes in Duren Sawit cannot be made. Nonetheless, the anthropometric gains and high parental acceptance documented here point in the same direction as this literature, suggesting that MBG's potential educational returns, alongside its nutritional ones, warrant dedicated longitudinal measurement in future research.

3.5. Parental Participation and Evaluation Mechanism

Parental participation represents one of the governance innovations developed in Duren Sawit District. Schools implement a parental consent mechanism for MBG participation: a dual-purpose approach that reduces waste and potential disposal problems while ensuring parents are aware of, and agree to, their children's participation. This mechanism also functions as a legal-protection instrument in the event of food-safety incidents, establishing that parents had prior knowledge of and consent to their child's participation.

Beyond consent, parents actively participate in program operations. In lower-grade classes, parents assist with meal distribution and container cleaning, functioning as an informal volunteer workforce that extends school capacity. This practical involvement creates an additional channel of program observation: parents who assist with distribution naturally develop direct insight into food quality, distribution logistics, and student response, positioning them as de facto program monitors that supplement the formal organoleptic testing system.

This pattern parallels findings from Rwanda, where stakeholder collaboration, and parental engagement in particular, was found to be the strongest predictor of successful school feeding programme implementation, more consequential than food provision alone (Ndayishimye & Dushimimana, 2024). The Duren Sawit case

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suggests a similar dynamic: parental involvement functions not merely as programmatic support but as an informal accountability mechanism that complements formal supervision structures.

Regarding formal evaluation, the study found that no structured evaluation instrument exists at the district level. The Head of the District Education Unit stated:

> "I believe there is none as of yet. But there should be an evaluation every six months."

Existing evaluation practice remains informal, based on daily reports through the coordination group and periodic discussion in the weekly coordination meeting. The Nutrition Fulfillment Service Units Sub-district Coordinator identified four primary success indicators from the Nutrition Fulfillment Service Units management perspective: (1) reduction in stunting rates and improvement of nutritional status; (2) beneficiary satisfaction with meal quality and service delivery; (3) operational quality and kitchen hygiene standards; and (4) broader social and economic impacts on the surrounding community. These indicators reflect a multi-dimensional view of program success that extends beyond nutritional outcomes to encompass governance, community welfare, and operational sustainability. The convergence of these perspectives across all three informants suggests a candidate indicator set, nutritional outcomes, food quality and safety, waste management, and service acceptance, that could form the basis of a comprehensive, data-based evaluation system.

3.6. Leadership Model in Cross-Sector Management

Across all three informants, the leadership model applied to managing the cross-sector MBG team in Duren Sawit was described in strikingly consistent terms: the Head of the District Education Unit did not exercise direct hierarchical control over actors from different institutions, such as Nutrition Fulfillment Service Units, community health centers, the police, or the Environmental Agency. Instead, she established a shared communication platform, encouraged collective participation, and promoted a culture of shared accountability, allowing stakeholders to contribute according to their respective expertise while remaining committed to common program objectives. The Nutrition Fulfillment Service Units Sub-district Coordinator independently described the same pattern at the kitchen-management and sub-district coordination levels, where daily operations require continuous interaction among multiple organizations. Recurring themes across all three interviews, communication, transparency, mutual support, and joint problem-solving, indicate that this style has become embedded in the operational culture of MBG implementation rather than remaining an individual leadership trait.

This pattern corresponds closely to what (Ansell & Gash, 2008) term facilitative leadership: a mode of leadership that substitutes formal authority with dialogue, trust-building, and joint problem-solving, and that they identify as a decisive condition for sustaining engagement in collaborative settings. It also reflects (Bryson et al., 2015) observation that cross-sector collaboration depends on leaders who act as conveners, bringing together diverse stakeholders and mediating competing interests rather than issuing directives. Read together with (Emerson & Nabatchi, 2015) concept of collaborative governance regimes, the Duren Sawit case suggests that facilitative leadership is not simply a personal attribute of the Head of the District Education Unit but a strategic necessity in a program that is inherently cross-sectoral: no single institution possesses sufficient authority, resources, or expertise across food preparation, public health monitoring, food safety, environmental management, security, and community engagement to manage MBG implementation independently.

The case therefore provides field-level support for collaborative governance theory's proposition that facilitative leadership is essential to effective cross-sector collaboration in complex public service programs, while also indicating, consistent with Section 3.3, that this leadership style has so far substituted for, rather than been reinforced by, formal national guidance on district-level coordination.

3.7. Collaborative School Feeding Governance (CSFG) Model

Based on the synthesis of all research findings, this study proposes the Collaborative School Feeding Governance (CSFG) Model as a conceptual framework for managing cross-sector collaboration in MBG implementation. The model was developed inductively from the empirical findings above and informed by collaborative governance theory (Ansell & Gash, 2008; Emerson & Nabatchi, 2015) and cross-sector collaboration literature (Bryson et al., 2015). It conceptualizes school feeding governance as a collaborative ecosystem in which multiple actors jointly contribute to the planning, implementation, monitoring, and continuous improvement of program outcomes.

The CSFG Model consists of five interrelated dimensions that operate simultaneously and reinforce one another within a unified governance structure:

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3.7.1. Cross-Sector Coordination

Cross-sector coordination represents the structural foundation of the CSFG Model. This dimension involves establishing a multi-stakeholder coordination platform bringing together the district office, Nutrition Fulfillment Service Units, schools, community health centers, parents, and relevant government agencies. Through regular communication channels and shared decision-making mechanisms, stakeholders align objectives, exchange information, and respond collectively to operational challenges. The findings demonstrate that the existence of such a forum reduces institutional fragmentation and enables rapid problem resolution when issues arise during implementation.

3.7.2. Operational Collaboration

Operational collaboration refers to the functional integration of responsibilities among participating institutions. Within MBG, Nutrition Fulfillment Service Units serves as the food producer and quality-assurance actor, schools function as distribution facilitators and conduct organoleptic assessments, while the district office acts as regional coordinator, supervisor, and crisis manager. Responsibilities are distributed according to institutional competence rather than hierarchical authority, so that collaboration rests on functional complementarity: each actor contributes distinct resources and capacities toward shared program goals, strengthening operational efficiency while preserving institutional autonomy.

3.7.3. Food Quality Supervision

Food quality supervision constitutes the risk-management component of the CSFG Model. The findings indicate that food safety is one of the most critical challenges in school feeding programs, since a single incident can undermine public trust and disrupt program continuity. The model incorporates a multilayered supervision mechanism, organoleptic testing at schools, first-tester protocols involving teachers and district officials, daily digital reporting by kitchen units, and documented escalation procedures for quality incidents, that creates multiple checkpoints minimizing the likelihood of food-safety failures. From a governance perspective, this dimension operationalizes shared accountability: responsibility for quality assurance is distributed among multiple actors rather than concentrated in a single institution.

3.7.4. Community Participation

Community participation serves as the social-legitimacy component of the CSFG Model. Findings reveal that parents are not merely beneficiaries but also play roles in supervision, communication, and feedback, through informed-consent procedures, voluntary assistance during distribution, communication with schools, and participation in program evaluation. This finding aligns with participatory governance literature, which holds that sustainable public programs are more likely to succeed when communities have meaningful opportunities to influence implementation, enhancing transparency, strengthening trust, and improving responsiveness to local needs.

3.7.5. Adaptive Evaluation

Adaptive evaluation functions as the learning and improvement mechanism within the CSFG Model, emphasizing the systematic collection and use of data to support evidence-based decision-making and continuous refinement. Candidate indicators include nutritional outcomes, food quality, student acceptance, food-safety incidents, distribution effectiveness, environmental-management performance, and stakeholder satisfaction. This dimension reflects (Emerson & Nabatchi, 2015) concept of collaborative adaptation, whereby governance systems continuously learn from implementation experience and adjust practices accordingly.

Although presented as distinct components, the five dimensions are highly interconnected: cross-sector coordination provides the institutional platform that enables operational collaboration; effective operational collaboration supports food-quality supervision through clear role allocation; community participation adds monitoring capacity and strengthens legitimacy; and information generated through food-quality supervision and community feedback feeds into adaptive evaluation, which in turn informs future coordination and operational improvements. The model should therefore be understood not as a linear sequence of activities but as a dynamic governance system characterized by continuous interaction, feedback, and mutual reinforcement among dimensions.

The CSFG Model extends collaborative governance theory into the specific context of school feeding and nutrition programs. Existing collaborative governance frameworks generally explain how stakeholders cooperate in public policy implementation but provide limited guidance regarding operational governance arrangements for school feeding initiatives specifically. The findings of this study suggest that successful school feeding governance requires not only stakeholder collaboration but also integrated mechanisms for quality control, community engagement, and adaptive learning, and that the model should be read as distributing accountability horizontally across institutions and stakeholders rather than vertically through a single reporting chain, reflecting the empirical reality that MBG's success depends less on formal authority than on the quality of collaboration, communication, and shared responsibility among participating actors.

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3.8. Implications

Theoretically, this study extends collaborative governance scholarship into the meso level of school feeding programs, showing that constructs developed for cross-sector public policy generally (Ansell & Gash, 2008; Bryson et al., 2015; Emerson & Nabatchi, 2015) apply with only modest adaptation to a single sub-district's daily coordination of a national nutrition program. Practically, the findings suggest several concrete actions for the National Nutrition Agency and local governments: developing an integrated national MBG SOP that covers district-coordination protocols and not only kitchen operations; accelerating hygiene certification for all Nutrition Fulfillment Service Units kitchens through dedicated inspection resources; allocating dedicated school budget lines for MBG waste-management equipment; developing a periodic, data-based evaluation system with standardized indicators across districts; and using the Duren Sawit multi-party coordination forum as a reference model for replication elsewhere, adapted to local conditions while preserving its core multi-sector composition.

Situated within the wider development-policy literature, these implications carry significance beyond nutrition and education outcomes narrowly defined: comparable school feeding programs have been shown to generate positive local economic spillovers through the procurement of food from nearby producers, contributing simultaneously to Sustainable Development Goal targets on zero hunger, quality education, and community economic resilience (Assefa, 2026). This suggests that governance improvements such as procurement transparency and local-vendor engagement, an area only briefly touched upon by the vendor-tier collaboration described in Section 3.1, may carry economic payoffs for surrounding communities that fall outside this study's immediate scope but merit consideration in future MBG policy evaluation.

3.9. Limitations

This study is subject to several limitations. First, as a single-district case study, its findings describe a comparatively well-coordinated implementation context and may not generalize to districts with less developed local leadership; the governance arrangements documented here should be read as an illustrative best-practice case rather than a representative average. Second, while purposive sampling of three informants was appropriate for covering the district, operational, and school tiers of governance in depth, it did not include the direct perspectives of parents, students, or Nutrition Fulfillment Service Units kitchen staff; their experiences were represented only indirectly, through the accounts of the three informants, which may understate tensions or dissatisfaction that these groups would raise themselves. Third, because two of the three informants hold positions of authority over the initiatives they describe, their accounts may be subject to social-desirability bias, particularly regarding the effectiveness of locally developed innovations such as the parental consent mechanism. Finally, data collection occurred within a single, bounded period and could not capture seasonal or longer-term variation in implementation quality, such as changes across school terms or shifts in kitchen certification status over time. Future research could address these limitations through multi-district comparison, direct engagement with parents and students, and longitudinal data collection.

4. Conclusion

This study concludes that MBG implementation in Duren Sawit District has formed a collaborative governance pattern, initiated by the Head of the District Education Unit, that unites the district office, Nutrition Fulfillment Service Units, schools, community health centers, security agencies, and the environmental agency within a single cross-sector coordination forum exceeding existing formal guidelines; this pattern makes three original contributions, empirical confirmation that MBG's success depends critically on local leadership initiative in the absence of a uniform national SOP, a dependency that is both a governance gap and a sustainability risk; identification of a persistent gap between formal regulation and field conditions, most visibly in kitchen hygiene certification (13 of 44 kitchens certified) and unintegrated waste management; and the development of the Collaborative School Feeding Governance (CSFG) Model, comprising cross-sector coordination, operational collaboration, food-quality supervision, community participation, and adaptive evaluation, as a replicable operational framework grounded in real implementation conditions, thereby demonstrating that governance innovation in school-based public programs can emerge from field-level practice even where top-down design remains incomplete.

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Data Availability

The datasets generated during and/ or analyzed during the current study are available from the corresponding author on reasonable request.

Declaration on AI Use

The authors declare that no artificial intelligence (AI) or AI-assisted tools were used in the preparation of this manuscript.

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