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ACTOR NETWORK IN THE IMPLEMENTATION OF THE FREE NUTRITIONAL MEAL PROGRAM (MBG): EVIDENCE FROM TANJUNGPINANG CITY

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Abstract

The Free Nutritious Meals Program (MBG) represents one of the largest national nutrition initiatives implemented simultaneously across regions in Indonesia. Although the program is designed through a centralized policy framework, its implementation requires coordination among multiple actors operating across institutional and sectoral boundaries at the local level. Existing studies on policy implementation have largely focused on administrative capacity and institutional design, while limited attention has been given to how relationships among actors shape governance processes in large-scale public nutrition programs. This study examines how actor networks shape the implementation of the MBG program in Tanjungpinang City. A qualitative research design was employed to explore relational dynamics among actors involved in the program. The analysis integrates Actor Network Theory to examine processes of network formation with Social Network Analysis to map relational structures and identify actors occupying strategic positions within the implementation network. Data were collected through in-depth interviews and analysis of policy documents. The findings reveal that MBG implementation is sustained not primarily by formal administrative hierarchy but by a relational governance network connecting actors responsible for food production, service distribution, and regulatory supervision. The Municipal Education Office functions as the central coordination hub within the network, while the Health Office provides regulatory legitimacy and intermediary actors facilitate coordination across institutional levels. These findings suggest that the effectiveness of complex public service programs depends on the capacity of actor networks to develop adaptive relational mechanisms that sustain coordination in diverse local contexts.

Keywords: Policy Implementation, Governance, Actor Network Theory, Social Network Analysis, Free Nutritious Meals Program.

INTRODUCTION

Large-scale public nutrition programs have increasingly become a central policy instrument for addressing child malnutrition while simultaneously improving educational outcomes. School feeding initiatives are widely implemented not only to improve students' nutritional intake but also to function as broader social protection mechanisms that support school participation and stimulate local economic activity. Global experiences show that the implementation of such programs often involves complex institutional arrangements linking government agencies, schools, health institutions, and food supply systems (Global Child Nutrition Foundation, 2024; Oña-Serrano et al., 2020). Consequently, the effectiveness of large-scale nutrition programs depends not only on policy design but also on governance mechanisms capable of coordinating multiple actors involved in program delivery. Research on policy implementation has long emphasized the challenges associated with translating policy directives into operational practices. Early implementation studies demonstrate that policies involving multiple organizations frequently encounter coordination problems because responsibilities are distributed across different institutional actors (Pressman & Wildavsky, 1973; Mazmanian & Sabatier, 1983). Later scholarship further highlights that policy outcomes are influenced by the ability of institutions to coordinate resources, exchange information, and adapt policy directives to local contexts (Hill & Hupe, 2002). These perspectives suggest that policy implementation should not be understood merely as administrative execution, but rather as a dynamic process shaped by interactions among actors responsible for delivering public services. In contemporary governance settings, many public policies are implemented through networks that connect actors across organizational and sectoral boundaries. Governance network literature highlights that complex policy problems increasingly require collaboration among public

institutions, private organizations, and community actors who share responsibilities in program implementation (Rhodes, 1997; Provan & Kenis, 2008; Klijn & Koppenjan, 2016). Within such arrangements, policy outcomes depend on patterns of coordination, information exchange, and the distribution of authority among actors operating within governance networks. Understanding how actor networks function therefore becomes essential for explaining variations in policy implementation across different local contexts. The Free Nutritious Meals Program (MBG) introduced by the Indonesian government represents one of the most ambitious national nutrition initiatives in recent years. The program aims to improve the nutritional status of students while also strengthening local economic circulation through the involvement of local food supply actors. Implementation is organized through Nutrition Fulfillment Service Units (SPPG), which are responsible for food preparation and distribution to schools. However, operationalizing the program requires coordination among multiple actors, including national agencies, local governments, schools, health institutions, and food suppliers. This configuration creates a complex governance environment in which program effectiveness depends heavily on coordination among participating institutions.

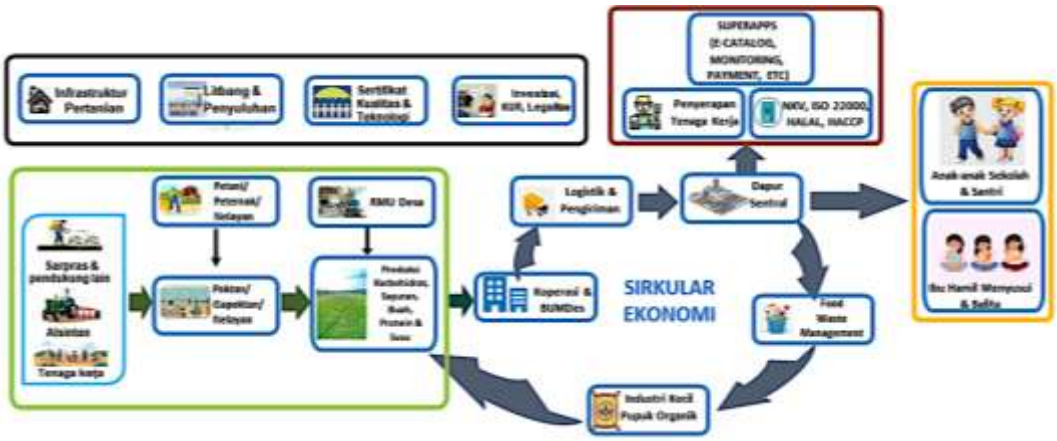

Figure 1. MBG Nutrition Fulfillment Service Unit Ecosystem Strategy
Source: National Nutrition Agency

Reports from oversight institutions indicate that the early stages of MBG implementation have encountered several governance challenges. These challenges include infrastructure readiness, sanitation supervision, supply chain coordination, and administrative synchronization among implementing agencies (CISDI, 2024; BGN, 2025a). Such conditions indicate that the effectiveness of MBG implementation cannot be explained solely through formal administrative arrangements but must also consider the relational dynamics among actors involved in the implementation process. Empirical studies on food security and nutrition policies further highlight the importance of collaboration among stakeholders in sustaining program effectiveness. Research shows that successful implementation of food and health programs often depends on cross-sector coordination and locally embedded governance networks (Gadeka et al., 2023; Gálvez Espinoza et al., 2024). In the Indonesian context, studies on food security and stunting prevention policies also emphasize the role of communication and collaboration among local actors in shaping implementation outcomes (Kuntariningsih et al., 2023; Rosalia et al., 2022). Despite these insights, limited research has examined how relationships among actors influence the governance of the MBG program, particularly at the local level where national policy directives must be translated into operational practices. Tanjungpinang City provides an important case for examining these dynamics. Despite facing institutional constraints similar to those experienced in many regions, the city has demonstrated relatively rapid progress in establishing operational MBG service units and coordinating implementation across institutions. This condition offers an opportunity to analyze how relationships among actors contribute to the formation of implementation networks and influence governance dynamics within the program. This study therefore examines how relationships among actors shape the implementation of the MBG program in Tanjungpinang City. By integrating Actor Network Theory with Social Network Analysis, the research aims to map the structure of the implementation network and explain how relational dynamics among actors influence governance processes in local policy implementation.

METHOD

Research Design

This study adopts a qualitative research design to examine how relationships among actors shape the implementation of the Free Nutritious Meals Program (MBG) at the local level. The research is grounded in a constructivist perspective, which views policy implementation as a socially constructed process emerging from interactions among actors operating within institutional and organizational networks (Creswell, 2018). From this perspective, implementation is not merely the execution of administrative directives but a relational process in which actors interpret policy objectives, negotiate roles, and coordinate actions within specific institutional contexts. The study focuses on the implementation of the MBG program in Tanjungpinang City. This case provides a relevant context for examining governance dynamics because the program requires coordination among multiple actors, including national agencies, local government institutions, schools, health authorities, and food supply actors. Understanding how these actors interact in coordinating program implementation is therefore essential for explaining the governance processes underlying the program.

To explore these dynamics, the study employs a phenomenological perspective to understand how actors experience and interpret their roles in the implementation process. Phenomenology enables the research to capture actors' lived experiences in coordinating policy implementation and managing operational challenges encountered during program delivery (Van Manen, 2016). Through this perspective, the study examines how actors interpret their responsibilities, develop coordination mechanisms, and respond to implementation challenges within the governance network. To analyze relational dynamics among actors, the research integrates Actor Network Theory (ANT) and Social Network Analysis (SNA). Actor Network Theory provides the conceptual framework for examining how networks of actors emerge through translation processes that align the roles and interests of different participants within the implementation system (Callon, 1984; Latour, 2005). Social Network Analysis complements this framework by enabling the visualization and examination of relational structures among actors involved in the program. The integration of ANT and SNA allows the study to analyze both the processes through which actor relationships emerge and the structural configuration of the implementation network.

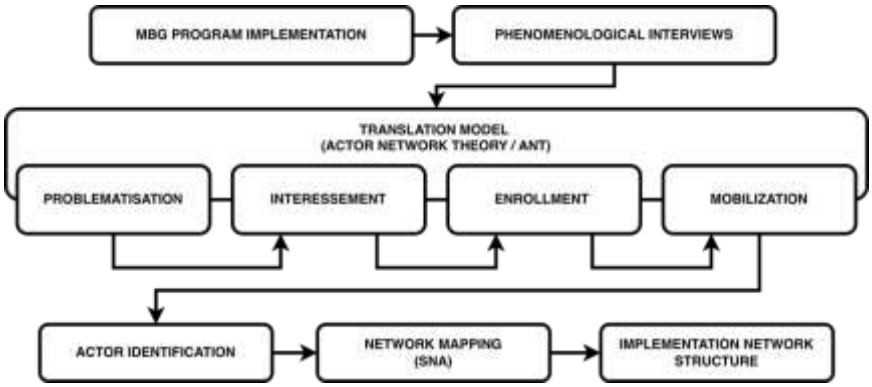

Figure 2. Research Analytical Framework
Source: Author's conceptualization

Data Collection

Informants included representatives from local government institutions responsible for program coordination, school administrators involved in food distribution, health authorities responsible for sanitation supervision, and actors involved in operational food preparation and distribution. These interviews were designed to capture participants' experiences in coordinating program activities, managing operational challenges, and interacting with other actors within the implementation network. In-depth interviews enable researchers to explore how actors interpret policy implementation processes and how coordination practices develop within institutional settings (Creswell, 2018). Interview questions focused on coordination mechanisms, role distribution among institutions, operational challenges during implementation, and communication patterns among actors involved in the program. To complement interview data, relevant policy documents and administrative reports related to the MBG program were also analyzed. These documents include program guidelines, institutional reports, and regulatory documents describing the responsibilities of institutions involved in MBG implementation. Document analysis provides contextual information regarding the formal policy framework and institutional arrangements shaping the implementation process. The combination of interview data and documentary evidence enables the study to examine both formal policy structures and relational practices through which actors coordinate program delivery.

Data Analysis

Data analysis was conducted in three stages. First, qualitative interview data were coded to identify actors involved in MBG implementation and the relationships connecting them within the implementation process. Coding was conducted using MAXQDA to systematically organize interview data and identify patterns of coordination, communication, and collaboration among actors involved in program implementation. References to coordination, communication, supervision, and operational interaction among actors were treated as relational ties within the emerging implementation network. Second, Actor Network Theory was used to interpret how these relationships emerged during the implementation process. The analysis examined how actors defined implementation problems, negotiated responsibilities, and developed coordination mechanisms while responding to operational challenges during program delivery. Through this approach, the research identifies how actor networks form through translation processes that align different actors within the implementation system (Callon, 1984; Latour, 2005).

Third, relational data derived from qualitative coding were used to construct a network dataset representing connections among actors involved in MBG implementation. Social Network Analysis was then conducted using Gephi to visualize the structure of the implementation network and examine the positions of actors within the network. Network measures including degree centrality, betweenness centrality, closeness centrality, and eigenvector centrality were used to identify actors occupying strategic coordination positions within the implementation network (Freeman, 1978; Borgatti et al., 2016). The integration of qualitative interpretation with network mapping enables the study to examine both the relational processes through which actor networks emerge and the structural configuration of relationships sustaining policy implementation. This approach provides a comprehensive understanding of how actor interactions shape governance dynamics in the implementation of the MBG program at the local level.

RESULTS AND DISCUSSION

Network FormationThrough Translation Processes

The implementation network of the Free Nutritious Meals Program (MBG) in Tanjungpinang developed through a series of relational processes involving multiple actors across institutional levels. Analysis of interview data using the translation framework of Actor Network Theory reveals how actors gradually constructed a functional implementation network through processes of problem definition, role negotiation, and coordinated action. Actor Network Theory conceptualizes policy implementation as a relational process in which heterogeneous actors align their interests and stabilize roles through negotiation rather than hierarchical authority alone (Latour, 2005; Callon, 1986). During the problematization stage, actors attempted to define the key challenges associated with implementing the MBG program at the local level. Informants identified several initial concerns, including the operational readiness of nutrition service units, coordination mechanisms among institutions, and the stability of food supply chains. At this stage, government institutions such as the Municipal Education Office and the regional coordinator of the National Nutrition Agency emerged as central actors responsible for framing implementation priorities and identifying institutions required to support the program. In ANT terminology, this stage established an *obligatory passage point* through which other actors became aligned with the emerging implementation network (Callon, 1986).

The interessement stage involved efforts to stabilize actor participation in the implementation network. Coordination meetings, institutional communication channels, and informal interactions were used to strengthen collaboration among participating institutions. Informants reported that coordination was frequently facilitated through digital communication platforms and cross-agency discussion forums. These mechanisms functioned as relational devices that enabled actors to negotiate their roles and responsibilities within the program. Previous studies on collaborative governance have similarly shown that communication infrastructures play a crucial role in sustaining interorganizational cooperation (Ansell & Gash, 2008; Klijn & Koppenjan, 2016). During the enrolment stage, actor roles became more clearly defined within the emerging governance structure. Government institutions assumed responsibilities related to coordination, regulation, and oversight. The Education Office coordinated beneficiary data and school participation, while the Health Office provided technical supervision related to food safety and sanitation standards. Operational actors such as the Nutrition Fulfillment Service Units (SPPG) were responsible for food preparation and distribution. These arrangements illustrate how policy implementation networks distribute responsibilities among actors with different institutional capacities (Rhodes, 1997; Sørensen & Torfing, 2007). Finally, the mobilization stage reflects the operational functioning of the implementation network. Actors began performing their roles through routine coordination activities. Informants described regular communication between operational kitchens and schools to ensure timely food distribution and to address operational challenges during implementation. Through these interactions, the network gradually stabilized and enabled collective action

among participating actors. These findings indicate that the MBG implementation network emerged through adaptive relational processes rather than purely hierarchical governance arrangements. This supports arguments that contemporary policy implementation increasingly depends on governance networks connecting diverse actors across institutional boundaries (Klijn & Koppenjan, 2016; Ansell & Gash, 2008).

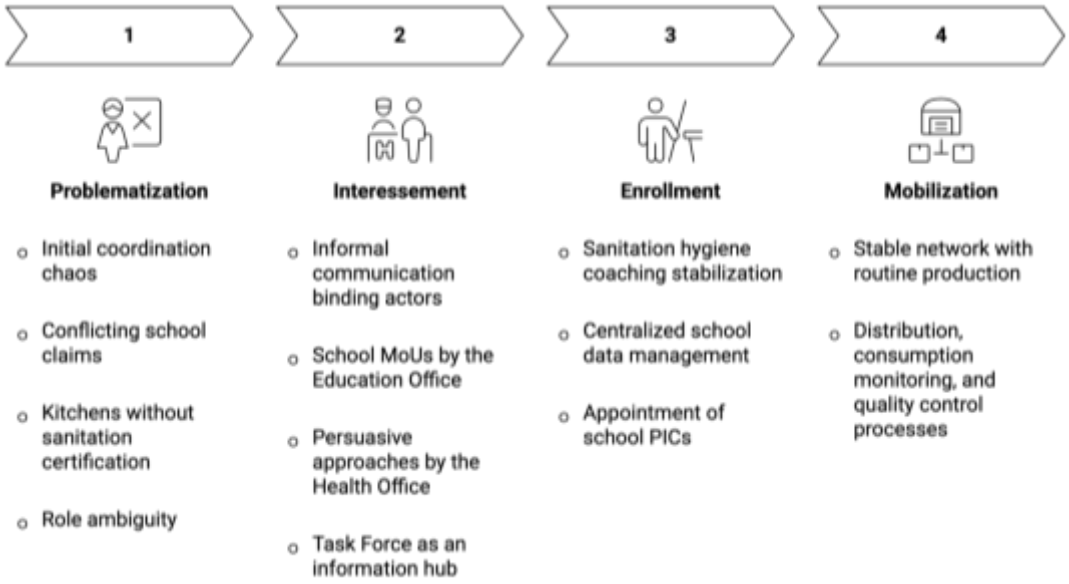

Figure 3. Translation Process in the Implementation of t
he MBG Program
Source: Author's conceptualization

Actor Identification in the Implementation Network

Following the analysis of translation processes, actors involved in MBG implementation were identified through qualitative coding of interview data using MAXQDA. The coding process enabled the systematic extraction of institutional actors mentioned during interviews and the identification of their roles in coordinating and delivering program activities. This step was essential for constructing the relational dataset used in the subsequent Social Network Analysis. The results indicate that the implementation network consists of multiple categories of actors performing different functions within the governance system. These include coordination actors responsible for policy alignment, operational actors responsible for service delivery, and supporting actors providing logistical and institutional support. Table 1 presents the actors identified through qualitative coding and their functional roles within the MBG implementation network.

Table 1. Actor Identification Based on MAXQDA Coding

Actor	Institutional Type	Functional Role in MBG Implementation	Network Role
Municipal Education Office	Local Government	Coordinates beneficiary data, school participation, and distribution schedules; facilitates inter-institutional coordination	Coordination hub
Health Office	Local Government	Supervises food safety standards and sanitation compliance in MBG kitchens	Regulatory authority
Regional Development Planning Agency	Local Government	Supports cross-sector planning and aligns MBG implementation with regional development priorities	Supporting coordination actor
Regional Coordinator – National Nutrition Agency (BGN)	National Government Agency	Connects national policy directives with local implementation actors and monitors program implementation	Bridging actor
Nutrition Fulfillment Service Units (SPPG)	Operational Organization	Responsible for food preparation, menu planning, and distribution of meals to schools	Operational actor
Schools	Frontline Institution	Receive meals from SPPG units and distribute them to student beneficiaries	Frontline actor
Food Suppliers	Private Sector	Provide food ingredients and logistical supply required for kitchen operations	Supply support actor
Partner Organizations / Foundations	Non-governmental Organization	Provide workforce support, logistical assistance, and operational support for MBG implementation	Supporting actor

Source: Author's Processing with Maxqda Assistance

Government institutions emerge as the primary coordination actors responsible for administrative oversight and policy alignment. These actors include the Municipal Education Office, the Health Office, and the Regional Development Planning Agency. Their roles involve coordinating implementation activities, ensuring regulatory compliance, and facilitating cross-agency collaboration. In governance network settings, government institutions frequently function as coordination hubs that connect diverse implementation actors and maintain operational coherence in public service programs (Provan & Kenis, 2008; Klijn & Koppenjan, 2016). Operational actors constitute another key component of the implementation network. These include the Nutrition Fulfillment Service Units (SPPG), which are responsible for food preparation and distribution to schools. Their activities translate policy objectives into concrete service delivery processes, positioning them as critical operational nodes within the governance system. Previous studies similarly highlight that operational organizations play a crucial role in translating policy frameworks into practical services delivered to beneficiaries (O'Toole, 2015). In addition to coordination and operational actors, the network also involves intermediary and supporting actors such as foundations, food suppliers, and partner organizations. These actors contribute logistical resources, workforce support, and supply chain connections necessary for sustaining operational activities. Frontline actors such as schools represent the interface between the implementation network and program beneficiaries, ensuring that meals reach students and providing feedback regarding operational challenges during program delivery.

Network Structure and Central Actors

To examine the structural configuration of relationships among actors, this study employs Social Network Analysis (SNA). Network measures including degree centrality, betweenness centrality, closeness centrality, and eigenvector centrality are used to identify actors occupying strategic positions within the implementation network. The network constructed in this study consists of 148 actors (nodes) connected through 399 relational ties (edges) derived from qualitative coding of interview data and institutional documents. The network was treated as a directed network representing coordination, supervision, and operational interactions among actors involved in the MBG

implementation process. Overall, the network reflects a multi-layered governance structure connecting national agencies, local government institutions, operational service units, and frontline service providers.

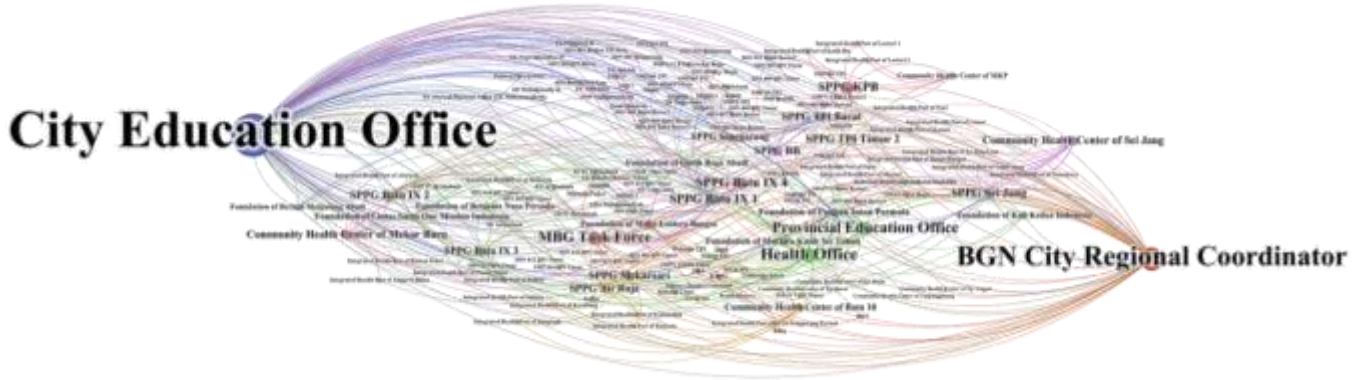

Figure 4. Network Structure of the MBG Implementation Program
Source: Author's network visualization using Gephi

Centrality analysis reveals that the Municipal Education Office occupies the most structurally dominant position in the network. Its high degree centrality indicates extensive direct connections with other actors involved in program implementation. This position enables the institution to coordinate interactions between schools, operational kitchens, and other government agencies. Coordination hubs such as this are critical for maintaining coherence and coordination within policy implementation networks (Provan & Kenis, 2008). The Regional Coordinator of the National Nutrition Agency performs a brokerage role within the network. Its betweenness centrality indicates that it functions as an intermediary connecting national policy structures with local implementation actors. Brokerage roles are particularly important in multi-level governance systems because they facilitate information exchange and policy alignment across institutional levels (Borgatti et al., 2013; Klijn & Koppenjan, 2016). The Health Office appears as a technically significant actor within the network due to its regulatory authority over food safety and sanitation standards. Although its structural centrality is lower than that of coordination actors, its technical legitimacy plays a crucial role in ensuring the credibility and safety of program operations. Operational actors such as SPPG units occupy positions within the service delivery layer of the network, connecting production processes with frontline service providers.

Table 2. Centrality Measures of Key Actors in the MBG Implementation Network

Actor	Degree	Closeness	Betweenness	Eigenvector	Network Role
City Education Office	114	0.6857	0.1401	0.8844	Central coordination hub
BGN City Regional Coordinator	56	0.5517	0.0793	1.0000	Strategic broker
City Health Office	29	0.4068	0.0232	0.4766	Technical legitimacy actor
Provincial Education Office	26	0.3820	0.0086	0.3797	Provincial coordination support
MBG Task Force	25	0.4586	0.0207	0.5296	Cross-sector coordination broker

Source: Author's Network analysis using Gephi

Governance Implications of the Implementation Network

The findings of this study provide important insights into the governance dynamics of large-scale public programs involving multiple actors and institutional arrangements. The implementation of the MBG program in Tanjungpinang demonstrates how policy implementation increasingly operates through collaborative governance networks rather than strictly hierarchical administrative structures. Coordination emerges through relational interactions among actors who contribute different forms of resources, expertise, and institutional legitimacy

(Rhodes, 1997; Ansell & Gash, 2008; Klijn & Koppenjan, 2016). Within this network, the Municipal Education Office occupies a central coordination position. Its structural role enables the institution to connect operational actors, regulatory authorities, and frontline service providers. Through this position, the Education Office maintains information flows and coordination across institutions involved in program implementation. At the same time, the regional coordinator of the National Nutrition Agency performs a bridging function linking national policy directives with local implementation actors. Such intermediary roles are crucial in multi-level governance systems because they facilitate policy alignment and communication across institutional levels (Borgatti et al., 2013; Klijn & Koppenjan, 2016). At the operational level, Nutrition Fulfillment Service Units (SPPG) function as the backbone of the service delivery system. These units translate policy objectives into tangible services delivered to program beneficiaries through food production and distribution to schools. The presence of operational actors highlights how policy implementation networks depend not only on coordination authorities but also on organizations capable of transforming policy directives into practical service delivery. However, the network structure also reveals potential governance vulnerabilities. Coordination responsibilities are concentrated among a limited number of actors, creating dependency risks if these actors encounter institutional or operational constraints. In addition, several supporting actors providing logistical and material resources remain only partially integrated into the governance structure, which may limit the overall resilience of the implementation network.

Operationally, the MBG implementation network functions through differentiated relational pathways that connect actors according to their functional responsibilities. The service delivery pathway connects the Education Office, SPPG units, schools, and the BGN regional coordinator in a daily food distribution chain governed by strict consumption time limits. This pathway ensures that production, distribution, and consumption occur in a coordinated sequence, allowing disruptions in one node to be quickly communicated through established coordination channels. The quality assurance pathway connects the Health Office, community health centers (Puskesmas), and regional health laboratories (Labkesmas) with SPPG units and schools through sanitation inspections, food sample testing, and food handler training. Meanwhile, the adaptive coordination pathway is mediated by the Tanjungpinang MBG Task Force, which bridges cross-agency communication when formal bureaucratic procedures cannot respond quickly to operational challenges. These differentiated pathways indicate that the implementation network operates through functional specialization rather than simultaneous interaction among all actors.

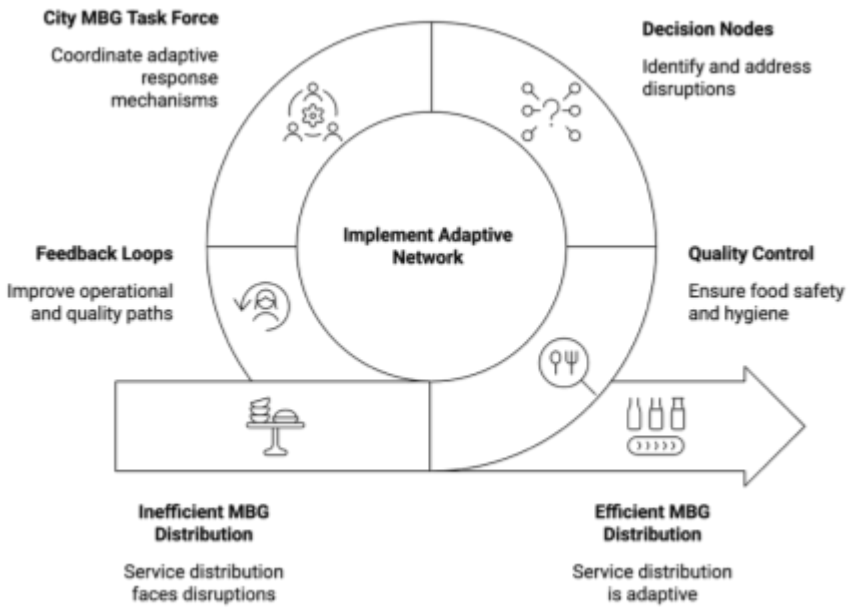

Figure 5. Relationship and Adaptation Mechanism in the MBG Implementation Network
Source: Author's conceptualization

From a network governance perspective, this pattern reflects a brokered network structure in which bridging actors maintain relational stability across institutional clusters (Provan & Kenis, 2008). The BGN regional coordinator and the Tanjungpinang MBG Task Force function as brokers facilitating information exchange, policy synchronization, and cross-sector coordination. Without these bridging nodes, the network would face a higher risk

of coordination fragmentation that could disrupt service delivery. The relational mechanisms observed in MBG implementation also reveal distributed dimensions of power within the network. The Education Office controls school participation and beneficiary data, positioning it as the primary information hub influencing distribution flows. The Health Office holds regulatory legitimacy through sanitation standards and the Hygiene Sanitation Eligibility Certificate (SLHS), which determines the operational feasibility of food preparation units. Meanwhile, suppliers and kitchen management partners control material resources such as food supplies and production facilities, allowing them to influence menu composition and operational schedules. From the perspective of Actor Network Theory, these power relations are not hierarchically centralized but distributed across networks of human and non-human actors who depend on each other (Callon, 1986; Latour, 2005). The effectiveness of the implementation network therefore depends on the ability of actors to negotiate these power relations in ways that sustain operational continuity. In this context, policy implementation functions not because authority is centralized, but because relationships among actors are continuously negotiated. The adaptive capacity of the MBG implementation network is further strengthened by informal communication mechanisms that complement formal coordination structures. Online communication groups facilitated by the MBG Task Force serve as rapid coordination platforms for resolving operational issues such as overlapping school distribution claims, delays in food delivery, and synchronization of beneficiary data. These communication channels enable actors to make operational adjustments without waiting for formal instructions from higher administrative levels.

This phenomenon reflects the concept of governance by interaction, which emphasizes that policy effectiveness often depends on the quality of engagement among actors rather than solely on formal organizational arrangements (Peters, 2001). In practice, informal communication mechanisms such as digital messaging groups often function as more responsive coordination channels than formal administrative procedures. Adaptive capacity is also visible in how actors respond to disruptions in food supply chains. Dependence on local food markets requires nutritionists and kitchen managers to adjust menus according to changing availability of ingredients while maintaining nutritional standards. This adaptation illustrates how implementation networks must negotiate material constraints that shape operational decisions. Similar findings have been reported in studies of food systems governance, which highlight the need for adaptive coordination in complex food distribution environments (Oña-Serrano et al., 2020). Nevertheless, reliance on relational flexibility and implementer discretion also introduces structural risks. Excessive dependence on informal coordination may weaken service standardization if not balanced by institutional oversight mechanisms. Moreover, dominance of particular actors within the network may reduce system resilience if leadership changes or institutional disruptions occur. Lipsky (1980) notes that implementer discretion can sustain public services, but without clear coordination frameworks it may also generate fragmented implementation outcomes. These findings suggest that successful policy implementation networks must balance flexibility with institutional stability. Adaptive coordination allows actors to respond to operational uncertainty, while institutional frameworks ensure consistency and accountability. Previous research similarly shows that policy networks in health and food governance contexts require both adaptive collaboration and clear coordination mechanisms to maintain service reliability (Gadeka et al., 2023; Kuntariningsih et al., 2023).

The analysis also highlights limitations in the design of the MBG policy framework. Program guidelines emphasize formal coordination structures but provide limited guidance regarding transitional implementation phases and relational mechanisms required at the local level. As a result, local actors were required to construct coordination networks through improvisational processes during the early stages of implementation. This finding indicates that policy effectiveness often depends not only on formal institutional arrangements but also on the relational capacity of actors to develop interaction-based governance mechanisms. Overall, the implementation of the MBG program in Tanjungpinang demonstrates that large-scale social policies operate as adaptive governance systems rather than purely administrative command structures. Policy effectiveness emerges from the ability of actors to build coordination mechanisms, negotiate distributed power relations, and adapt to operational constraints within complex institutional environments. In this sense, successful policy implementation depends not only on institutional design but also on the relational capacity of governance networks to sustain coordination under conditions of uncertainty.

CONCLUSION

This study examined how actor relationships shape the implementation of the Free Nutritious Meals Program (MBG) in Tanjungpinang by integrating Actor Network Theory, phenomenological analysis, and Social Network Analysis. The findings demonstrate that program implementation does not operate solely through formal administrative structures but evolves through relational interactions among multiple actors within a governance network. Through translation processes involving problem definition, actor alignment, role negotiation, and

coordinated action, diverse institutions gradually stabilized their roles within the implementation system. Network structure analysis further reveals that several actors occupy strategically important positions within the implementation network. The Municipal Education Office functions as the primary coordination hub connecting operational and frontline actors, while the regional coordinator of the National Nutrition Agency performs a brokerage role linking national policy frameworks with local implementation practices. Operational actors such as Nutrition Fulfillment Service Units (SPPG) serve as the practical infrastructure through which policy objectives are translated into service delivery. These findings contribute to the literature on policy implementation and governance networks by demonstrating how the integration of Actor Network Theory and Social Network Analysis can provide a comprehensive understanding of the relational dynamics underlying large-scale policy programs. Rather than viewing implementation as a linear administrative process, this study highlights the importance of understanding policy implementation as an adaptive network of actors whose interactions shape governance outcomes. From a practical perspective, strengthening collaborative coordination mechanisms, improving communication infrastructures, and distributing coordination roles more broadly across institutions may enhance the resilience of implementation networks. However, this study is limited to a single-case analysis. Future research could expand the analysis through comparative studies across regions to better understand how variations in institutional contexts influence the formation and performance of policy implementation networks.

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