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Research Paper

Local Food, Centralized Governance, and the Limits of Policy Localization in Indonesia's Free Nutritious School Meal Program:
Evidence from Sumba

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Abstract

The Free Nutritious Meal Program (Makan Bergizi Gratis/MBG) seeks to improve schoolchildren's nutrition while stimulating local economies through the use of local food. However, evidence from Sumba reveals a structural tension between policy localization and centralized governance. Using a qualitative case study across three districts, based on interviews, observation, and document analysis, this study finds that program implementation is driven more by centralized control and political dynamics than by local capacities. As a result, menus remain dominated by rice and market-based commodities, marginalizing locally adaptive savanna foods. This reflects an epistemological disconnection between standardized nutrition frameworks and local food knowledge. While MBG improves short-term attendance and learning readiness, its long-term contribution to local food systems is limited. Policy effectiveness requires concrete reforms: greater local decision-making authority, formal recognition of local food systems in nutritional standards, and integration of local producers into supply chains. Without these, MBG risks reinforcing dependency on external food systems.

Keywords: Free Nutritious Meal Program; Local Food; Policy Localization; Epistemological Disconnection; Sumba.

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1. Introduction

Indonesia's national Free Nutritious Meal Program (Makan Bergizi Gratis, MBG) was formulated as a policy intervention with a dual mandate: to improve the nutritional intake of schoolchildren while simultaneously optimizing the use of local food resources to strengthen rural economic structures. Beyond addressing nutritional needs, the policy also represents a renewed orientation toward food policy localization namely, the integration of locally based food self-sufficiency principles into the national development framework. In the context of Sumba, MBG holds strategic significance as an instrument capable of consolidating food security grounded in social and ecological justice. Mainstreaming local food into the design and implementation of MBG has the potential to reinforce regional food systems, broaden income opportunities for smallholder farmers, and generate economic stimulus for poor rural households.

Sumba is among the regions with the highest poverty rates in East Nusa Tenggara, where approximately 26–30 percent of its total population of 820,506 people live below the poverty line (BPS, 2024). The majority of households depend on dryland agriculture, producing local foods such as maize, sorghum, tubers, and legumes. These local food systems not only sustain nutritional needs but are also deeply embedded in social relations, cultural identity, and savanna-based ecological knowledge systems (Altman, 2005; Glowacki-Dudka et al., 2013). Studies by Fowler (2005), Christianto (2020), and Tjoe et al. (2019) demonstrate that crops such as maize in Sumba serve not only economic and nutritional functions but also play integral roles in customary rituals, ancestral reverence, and the reproduction of social values.

At the global level, a growing body of research highlights local food systems as the foundation of food security in subsistence communities due to their adaptive capacity to climate variability, short distribution chains, and reliance on social solidarity (Mundita, 2013; Arif, 2021). Local food-based systems tend to be more environmentally sustainable, characterized by low chemical inputs and greater resilience to global food system disruptions (Harmayani et al., 2017; Carfora et al., 2022). During the COVID-19 pandemic, local supply chains proved more resilient than large-scale industrial food supply chains (FAO, 2020; Thilmany et al., 2021). Accordingly, the integration of local food into MBG should be understood not merely as menu diversification, but as a comprehensive food security strategy that links nutrition, ecology, and rural economic development.

International experience demonstrates that school feeding programs can significantly improve nutritional status, school attendance, and equity in educational access when they are designed to reflect local contexts. Studies by Spill et al. (2024) and Parnham et al. (2024) show that Universal Free School Meals in the United States and the United Kingdom increased meal participation, reduced absenteeism, and curtailed the consumption of ultra-processed foods, particularly among low-income households. Wang et al. (2021), in a systematic review of studies conducted across low- and middle-income countries (LMICs), and Kaur (2021) in India find that school feeding programs are associated with improvements in both nutritional and educational outcomes. Similarly, in South Africa, Mostert (2021) concludes that school feeding programs have a significant impact on the academic performance of rural children. One of the most instructive international experiences for the MBG context comes from Brazil, where the Programa Nacional de Alimentação Escolar (PNAE) mandates that at least 30 percent of school food procurement be sourced from smallholder farmers (Sidaner et al., 2013; Horta et al., 2019; Alves da Silva et al., 2023). This policy illustrates the successful integration of nutrition, food sovereignty, and local economic strengthening within a single programmatic framework.

The success of school feeding programs is also strongly shaped by governance arrangements that balance authority between central and local levels while allowing space for contextual adaptation (Bundy et al., 2024). However, when policies are governed through highly centralized and standardized frameworks, localization efforts often lose their responsiveness to local social-ecological contexts (Watkins, 2024). Numerous studies indicate that successful implementation depends on inclusive and adaptive local governance through cross-sectoral collaboration, consistent communication of program goals, context-sensitive design, menu adjustments aligned with children's preferences, and nutrition education delivered by teachers (Chambers et al., 2020; Cohen et al., 2021; Carlisle et al., 2023; Jessiman et al., 2023; Borbely et al., 2024; Liguori et al., 2024; Martinelli et al., 2025; Mulaudzi et al., 2025; Pramesthi et al., 2025). Tensions between this contextual governance logic and national policy frameworks oriented toward standardization and vertical control constitute a central challenge in the localization of school feeding policies.

Preliminary observations of MBG implementation in Sumba reveal a divergence from this localization ethos. Program delivery remains governed by vertically structured and centralized institutional mechanisms, in which political access appears to outweigh technical capacity and community participation. MBG menus have yet to demonstrate systematic integration of local foods, resulting in an "epistemological disconnection" between national policy knowledge and local knowledge of adaptive foods within the savanna ecology. Although the modern nutritional framework underlying the Free Nutritious Meal Program is designed to ensure nationally standardized levels of nutritional adequacy, it tends to rely on a technocratic logic that generalizes the definition of "nutritious food" without adequately accounting for the diversity of local food knowledge. In regions such as Sumba, local food systems based on maize, tubers, and other adaptive protein sources have evolved through long-term interactions between communities and the savanna ecology, and have proven capable of sustaining livelihoods under environmentally constrained conditions. However, in policy practice, this local knowledge is often not articulated within formal nutritional frameworks, which instead prioritize standardized nutrient compositions based on universal indicators. This condition reflects an epistemological disconnection between locally grounded, embodied knowledge and modern nutritional frameworks that are abstract and standardized. As a result, the integration of local food into public programs such as MBG faces not only technical challenges but also limitations in the recognition of local knowledge as a valid foundation for food policy design. This context raises critical questions regarding the extent to which MBG functions as an instrument for empowering local food systems, or instead reproduces longstanding centralized patterns within Indonesia's national food policy.

Against this backdrop, this study aims to examine the dynamics of MBG implementation as a national policy that formally embraces the principle of localization. Specifically, it explores how localization is negotiated at the local level, identifies the actors involved, analyzes decision-making and resource allocation mechanisms, and assesses the extent to which hierarchical institutional structures constrain the social and economic transformations promised by the program. This inquiry is particularly important given the limited number of studies that critically examine the politics of localization in national school feeding programs, especially in marginal savanna ecologies such as Sumba.

2. Methods

This study adopts a qualitative research approach with a case study design to examine the limitations of policy localization in the implementation of Indonesia's Free Nutritious Meal Program (Makan Bergizi Gratis, MBG). This approach was selected because it enables an in-depth exploration of policy dynamics, implementation practices, and power relations between a centralized national policy framework and diverse local contexts. The study explores the meanings and perspectives constructed by actors who are directly and indirectly involved in the program through the researcher's sustained engagement in the field (Creswell & Creswell, 2022). In line with Yin (2018), this research seeks to address the questions of "how" and "why" policies and programs are implemented in particular contexts.

The research was conducted on Sumba Island, a region characterized by savanna ecology and a long history of adaptive local food systems. However, successive national policies have gradually shifted food orientations toward non-adaptive staples, particularly rice. In this context, the implementation of MBG was expected to become both an entry point and a turning point for advancing policy localization that supports adaptive local foods. In practice, however, the program reveals tensions between standardized national MBG regulations and the realities of local food systems.

a. Data Collection Techniques and Sources of Information

To obtain the data required for analysis, this study employed three primary data collection techniques across multiple sources:

1. In-depth Interviews

Interviews were conducted with key actors selected through purposive sampling (Patton, 2015). These actors were directly and indirectly involved in the implementation of the MBG program and included:

- MBG implementers, comprising foundation owners and managers of the Nutrition Fulfilment Service Units (Satuan Pelayanan Pemenuhan Gizi, SPPG);

- Teachers and school principals, who were responsible for the implementation and supervision of school meal activities;
- Local government officials, particularly from the Departments of Education and Health, who played roles in program coordination and monitoring.

Additional interviews were conducted with other relevant stakeholders through online communication platforms (e.g., WhatsApp) to enrich understanding of the broader policy context and coordination dynamics among actors. To ensure confidentiality and informant safety, all individual and institutional names have been anonymized. Only the researcher retains access to the original identities.

2. Field observation

Observations were carried out in two schools receiving MBG services and through visits to MBG kitchens to examine food preparation practices, the types of food ingredients (menus) consumed by students, and interactions between program standards and local conditions. These observations helped illuminate the gap between policy design and everyday implementation

3. Document Analysis

Documents analyzed included national regulations related to the MBG program and its technical implementation guidelines. Document analysis was used to trace the normative and administrative frameworks shaping program implementation. In addition, online news coverage from both local and national media outlets on MBG implementation from February 2025 onward was reviewed. The combination of these three techniques enabled comprehensive data triangulation and strengthened the validity of the research findings (Creswell & Poth, 2018).

b. Data Selection, Curation, and Validation

Data selection was conducted in stages based on relevance to the research objectives. Interview data were recorded, transcribed, and curated to identify information directly related to issues of policy localization, the use of local food, and decision-making mechanisms. Data validation was conducted through source triangulation by comparing findings from interviews, observations, and policy documents. Consistency across informant narratives was also used to enhance the reliability of the interpretations.

c. Data Analysis Techniques and Procedures

Collected data were analyzed using an iterative thematic analysis approach as developed by Braun and Clarke (2022). The analytical process began with the transcription of interviews and repeated reading of interview transcripts and field notes to achieve data familiarization, followed by open coding to identify meaningful units relevant to the research focus, including themes such as food localization, community participation, actor relations, and institutional structures. These initial codes were then grouped into broader categories through axial coding by examining patterns, relationships, and recurring themes across multiple data sources, and subsequently developed into overarching themes that explain the interaction between national policy frameworks and local contexts, particularly the dynamics between centralized governance and the limited integration of local food systems. The process was iterative, involving continuous movement between empirical data and theoretical frameworks to generate reflective interpretations (Creswell & Creswell, 2022; Braun & Clarke, 2022). To ensure the consistency and validity of the findings, data credibility was strengthened through triangulation by systematically comparing evidence from interviews, field observations, policy documents, and media sources (Patton, 2015). In addition, the analysis was guided by the conceptual framework of the study, ensuring that theme identification and categorization were not only inductive but also informed by the underlying theoretical perspectives.

d. Theoretical and Conceptual Framework

The analysis in this study is grounded in the concepts of policy localization and centralized governance. This framework is used to assess the extent to which national policies provide space for local adaptation and how institutional and administrative boundaries shape program implementation at the local level. In addition, the study draws on a recognition-based perspective toward local food systems to understand how local foods are positioned or marginalized within national policies oriented toward standardization and efficiency. This framework enables an analysis that links policy structures,

implementation practices, and the socio-ecological consequences for the sustainability of local food systems.

3. Results and Discussions

3.1. MBG in Sumba: Centralized Policy Implementation and the Marginalization of Local Savanna Food Systems

Sumba Island is one of the outer regions of Indonesia that has implemented the Free Nutritious Meal Program (MBG). The program has been serving three of the four districts on Sumba Island since February 2025. Since its implementation, a number of important field findings have emerged that deserve the attention of the government as regulator, as well as the public as beneficiaries and program monitors. These findings are presented across several dimensions, including program governance, nutrition, service quality, program outcomes, and the economic and socio-cultural impacts of food.

a. Institutional Patterns and Access to the MBG Program

MBG managing institutions are key actors in the implementation of the program in the field. Therefore, each region is required to establish a managing institution. Referring to Regulation of the National Nutrition Agency of the Republic of Indonesia Number 6 of 2024 on the general guidelines for the provision of government assistance within the National Nutrition Agency, the recruitment process for MBG implementers is designed to be open, competitive, and transparent. Community groups organized in the form of foundations have the opportunity to become MBG implementers.

However, in practice, these provisions have not been fully implemented as intended. The involvement of foundations implementing the MBG program in Sumba did not go through a competitive selection process. These implementing foundations are those that have structural access or relationships with central organizations, either affiliated with certain political parties or with military institutions.

This phenomenon shows that the existing MBG managing institutions at the local level have not fully passed through a transparent and accountable assessment of their technical capacity. Their involvement is strongly influenced by the socio-political capital of certain actors and by vertically structured institutional relations. This finding confirms that policy localization in the implementation of MBG at the local level faces challenges from power relations and political networks that determine who has access to the national program. Power relations and political networks limit the occurrence of the social and economic transformation that constitutes the mission of MBG.

b. Limited Service Coverage

The coverage of the MBG program remains limited and selective. So far, it has only reached a small number of “selected” schools located around urban areas. However, the determination of target schools did not go through formal coordination mechanisms with local governments, such as the education office, but was instead decided unilaterally by MBG implementers. The selection of target schools is based on technical considerations such as distance and food delivery time. A maximum distance of 6 km and a travel time of 30 minutes are used to maintain food quality (https://www.bgn.go.id/juknis).

These findings indicate that MBG implementation in Sumba is still operating on a limited scale, has not yet reached all schools in need, and does not yet have a participatory targeting system. The involvement of local actors as part of negotiations over local interests in determining service coverage has not occurred because decisions are still made unilaterally by program managers based on centralized policy guidelines.

c. Production and Distribution Processes

The MBG production chain shows an intensive work rhythm. Food processing activities begin early in the morning (02:00 a.m.), followed by packing at 05:00–06:30, and distribution to target schools at 06:30–07:00. The food is consumed by students at around 09:15, depending on the first break time in each school, which varies across schools. Observing the time between food preparation and consumption shows a gap of approximately four to five hours.

Based on field findings on MBG menus prepared by each SPPG, there are three menu patterns, as shown below.

Table 1: MBG Menu Patterns

Menu Package	Carbohydrate Source	Animal Protein	Plant Protein	Vegetables	Milk	Local Food Processing
Paket 1	Rice	Chicken (fried/soy/stewed) or beef	Tofu, tempeh, long beans, carrots, squash	Orange, watermelon, banana	Depends on the SPPG: some provide it 1-2 times a week, but there are also those who only provide it once since the MBG program was implemented.	No local food processing is available during the implementation of MBG
Paket 2	Rice	Egg (fried/boiled)				
Paket 3	rice	Fish (fried/fish cakes)				

Source: Compiled from field findings

Menu rotation varies across SPPGs, ranging from daily changes to ten-day cycles. Although incidents of spoiled food and food poisoning occurred in the early stages of implementation, nationally more than 1,300 MBG-related poisoning cases were recorded across ten provinces, indicating weak food safety oversight and inadequate kitchen sanitation (Suprapto et al., 2025). Over time, improvements have been made to logistics systems and quality control. These work patterns show efforts toward professionalizing food logistics, although they are still constrained by issues of nutritional sustainability and menu variation.

d. Student Acceptance and Consumption Patterns

The level of acceptance of MBG menus is strongly influenced by students' socio-economic backgrounds. Children from poor families tend to consume their food completely. If any food is left, it is usually raw vegetables (such as lettuce and cucumber) that are not commonly consumed locally. This generally occurs in schools where most students come from poor households. According to classroom teachers, these children regard MBG meals as food served at a party.

Meanwhile, children from wealthier families are more selective and often leave part of the menu uneaten. This pattern is more common in schools attended by students from better-off families. These findings show that MBG functions significantly as a nutritional subsidy for poor groups, but has less appeal for middle-income groups. Rejection of raw vegetables also reflects a cultural distance between standardized MBG menus and local consumption habits. On the other hand, teachers' efforts to educate students to eat vegetables demonstrate the importance of nutrition education at the school level.

e. Impacts of MBG on Student Attendance and Health

According to classroom teachers, before the MBG program, student absenteeism was quite high. Reasons for absence included illness and participation in family activities, either in customary events or in the fields. Since the introduction of MBG, school absenteeism has declined. There are no longer children found to be sleepy in class during lessons, nor children who appear weak and sweating during class time. Generally, these conditions were experienced by children from poor families who rarely or never had breakfast at home. In addition, some parents had already left early for the fields and did not have time to prepare breakfast. The existence of MBG has a positive effect on students' learning readiness and concentration, confirming the direct relationship between nutritional interventions and learning quality in primary schools.

f. Marginalization of Local Food and the Hegemony of Hybrid Food Systems

One important finding is that local food-based products derived from various local food sources have not become part of the MBG menus provided to target schools, community health posts, and pregnant and breastfeeding women. Even at the early stage of MBG implementation, some SPPG kitchens included instant foods such as biscuits and cereals.

From the daily menu patterns, MBG services show that rice remains the only main source of carbohydrates, while other food ingredients mostly come from local markets. Meanwhile, local markets are now dominated by hybridized foods, both cultivated by local farmers and brought in from outside the region. This finding indicates a shift in food ecology from adaptive food systems suited to savanna conditions toward uniform food systems dependent on external inputs.

In the savanna ecology of Sumba, approximately 14 types of local food such as maize, sorghum, tubers, and traditional legumes are available (Makambombu, 2024). However, these foods have not been integrated into MBG menus. Although they are part of adaptive food systems with high nutritional value

and resilience to dry climatic conditions, they remain excluded. Some local foods are statistically recorded, but many remain unrecorded due to limited production and lack of market access (Table 2).

Table 2: Recorded and Unrecorded Food Crop Types

Crop Type	Production (tons)	Not recorded (local terminology)
Rice	81.093	*Hili (talas), Luwa (umbi luwa)*, *Litang* (gembili), *Ganyung* (ganyong), I*wi* (gadung), *Uhu Kanu* (jewawut), *Kamanggih* (jali), Kambi uhu (Kacang nasi)
Maize	29.924	
Groundnut	592	
Mung bean	178	
Cassava	27.736	
Sweet potato	2252	

Source: Compiled from West Sumba in Figures and East Sumba in Figures (BPS, 2024)

These findings emphasize that the absence of local food in MBG menus not only reflects the marginalization of local knowledge in nutrition policy, but also the limited space for policy localization to integrate local food into MBG menus. This condition further strengthens structural dependence on national industrial food supply chains.

g. Expressions of Boredom and Children's Aspirations for Menu Variety

Students' boredom with monotonous menus is reflected in their increasingly selective eating behaviors. One illustrative example occurred when a child slipped a note into the lunch box requesting that the meal be replaced with a burger. This request was even accommodated by the kitchen management, which ordered burgers from a local bakery. This phenomenon indicates a shift in children's food preferences, increasingly shaped by modern consumption lifestyles, while also revealing how school food policies interact with children's imaginaries of "urban" foods.

Based on the findings above, the implementation of MBG in Sumba demonstrates a complex dynamic between national policy directions and a highly distinctive local context. On the one hand, the program has generated positive outcomes through improved student participation and learning performance, thereby affirming its relevance as both a nutritional and educational intervention. On the other hand, MBG implementation also exposes a number of structural challenges that cannot be overlooked. The politicization of program access persists and continues to shape which groups receive benefits more quickly or to a greater extent. In addition, uneven logistical capacity across Sumba has created disparities in the quality and consistency of food provision.

Within this context, the low level of integration of adaptive local foods into program menus highlights how the design of MBG remains anchored in a uniform, industrial food framework. As a result, emerging consumption patterns tend to be homogeneous and risk eroding the food diversity characteristic of the savanna ecology, which has long been central to the identity and resilience of local food systems. The policy localization agenda that underpins MBG's mission to build food self-reliance based on local potential thus faces significant constraints.

Accordingly, these findings suggest that MBG cannot be understood merely as a school nutrition program, but must also be seen as an arena of contestation between two food system models: a standardized industrial food system and a local food ecology rooted in the diversity of adaptive food resources of the savanna region.

3.2. MBG as a Contested Food Policy Regime: Power, Governance, and the Marginalization of Local Food Systems

a. MBG as an Arena of Power Relations and the Politicization of Program Access

The implementation of the MBG program in Sumba shows that the determination of program implementers is not fully based on transparent selection mechanisms or institutional technical capacity. Instead, implementation is largely influenced by socio-political relations between local actors and power networks at the national level.

As stated by one kitchen manager, his involvement as a kitchen operator was due to his relationship with party structures at the central level. According to him:

"*When this program was about to be implemented, I was contacted by my network in Hambalang who asked me to run this program*." (*Kitchen manager, Peduli Kasih Sumba Foundation*)

The involvement of foundations with close ties to the party and military structures indicates the politicization of access to public programs. Under these conditions, the spirit of localization that should support MBG's dual mission, improving child nutrition while strengthening local food security, faces structural obstacles. The space for local actors to participate in managing and directing the program is instead displaced by political intervention from the center, reinforcing the strong structural bias and top-down governance logic in Indonesia's food security policy.

This situation shows that school feeding programs do not merely function as nutritional interventions, but also operate as arenas of political legitimation. In contrast, Brazil's experience through the Programa Nacional de Alimentação Escolar (PNAE) shows that the success of free school meal programs is largely determined by participatory and decentralized governance, in which local governments and farmer communities are directly involved throughout the school food supply chain (Sidaner et al., 2013; Alves da Silva et al., 2023). This comparison confirms that MBG implementation in Sumba has not yet reflected inclusive governance practices. The program remains dominated by vertical structures that limit autonomy and weaken local institutional capacity to manage food systems aligned with the savanna ecological context.

b. The Gap between Policy and Implementation

The MBG intervention currently applied to "selected schools" shows that program coverage is still constrained by technical considerations, especially distance and delivery time. This approach does not fully take into account the role of local actors who possess contextual knowledge regarding territorial needs and more vulnerable target groups.

As stated by an official from the Department of Education, Youth, and Sports:

"*The determination of target schools is fully decided by MBG implementers and is not based on discussions with the local government. Meanwhile, the local government actually wants schools far from the city to be prioritized because they are more in need than urban schools. However, there is no discussion space for this, and the decision is made solely by the MBG managers*."

The same concern was also expressed by an official from the Health Office, who stated:

"*So far, there has been no coordination with the Health Office in MBG implementation. The managers only consult us when problems occur, for example when there are cases of food poisoning*."

This confirms that MBG implementation tends to be selective and controlled by technocratic logic rather than principles of equitable access.

Nationally, in its early stage, MBG has only reached around 5.6 million beneficiaries, equivalent to 4.23 percent of the annual target through the Nutrition Fulfilment Service Units (SPPG) (Suprapto et al., 2025). This condition shows that logistical efficiency still dominates program implementation, which in turn has the potential to widen disparities between regions and schools in fulfilling children's nutritional needs.

On the other hand, limited kitchen infrastructure and weak coordination with local governments indicate that the MBG system has not been adequately integrated into a cross-sectoral nutrition policy framework. The program is still treated as a standalone intervention, not as part of a broader ecosystem of nutrition and local food system development. Yet, various studies emphasize that the sustainability of community-level food programs is highly dependent on strong institutional networks among local governments, communities, and local economic actors (Chambers et al., 2020; FAO, 2021; Rahmanto et al., 2021; Jessiman et al., 2023; Mulaudzi et al., 2025). Without such institutional integration, MBG implementation risks facing persistent limitations in coverage and long-term support capacity.

c. Professionalization without Localization

The MBG production chain in Sumba shows high logistical efficiency, from early-morning food preparation to morning distribution to schools. This indicates a process of technical professionalization at the implementer level. However, technical professionalism is not accompanied by adaptive efforts that favor local potential. The study finds that almost all MBG menus rely on market-sourced food ingredients and do not use local food.

According to one MBG kitchen manager:

"*Currently we still refer to the technical guidelines (juknis) from the central government. Rice is the main raw material for MBG carbohydrate sources. Perhaps in the long term it could be something other than rice, as long as it meets nutritional and hygiene requirements*." (*SPPG Coordinator, Peduli Kasih Sumba Foundation*)

This shows the absence of a "local food" dimension in MBG menu provision due to strict adherence to central technical guidelines rather than local resource availability. Ultimately, this confirms that MBG, which carries a policy localization mandate, does not function effectively at the local level.

Various studies emphasize that local food systems are the foundation of sustainable community food security (Giampiccoli & Kalis, 2012; Deller et al., 2017). In Brazil, for example, 30 percent of food for free school meal programs is required to come from local smallholder farmers (Sidaner et al., 2013; Alves da Silva et al., 2023). In contrast, MBG in Sumba shows dependence on external commodities and hybridized foods. This condition illustrates the paradox between logistical efficiency and food sovereignty. MBG ensures timeliness and hygiene, but loses opportunities to strengthen rural economies and sustain local food systems.

Findings from Sumba also reinforce global literature arguing that nationally standardized nutrition regulations and menu guidelines often restrict local actors' discretion to integrate local food sources. Cross-country policy reviews show that state control over school menu composition through nutrition guidelines and procurement mechanisms effectively "locks in" food choices at the local level (Busey et al., 2024). In the Indonesian context, this aligns with the findings of Pramesthi et al. (2025), which show a gap between national school feeding policy goals and local adaptive capacity.

d. Marginalization of Local Food and the Hegemony of Hybrid Food Systems

One of the most striking findings is the absence of local foods such as maize, sorghum, and tubers from MBG menus. These foods are part of adaptive savanna food systems that are drought-resilient and have significant potential to meet children's nutritional needs (Harmayani et al., 2017; Carfora et al., 2022).

In Indonesia, recognition of the importance of local food diversification has been affirmed through Food Law No. 18 of 2012. However, in practice, national food policy remains biased toward dominant commodities such as rice and wheat. This structural bias creates barriers to integrating local food products into government procurement mechanisms, including school feeding programs such as MBG. This phenomenon shows that national food policy is still hegemonized by a single-commodity, rice-based production paradigm (Makambombu, 2024). At the local level, the dominance of rice as the main carbohydrate source has displaced traditional food systems that were previously more diverse and ecologically adaptive.

Literature on local food systems emphasizes that local food should not be understood merely as a technical option, but as a social-ecological system tied to community knowledge, practices, and historical relations (Altman, 2005; Fowler, 2005; Glowacki-Dudka et al., 2013; Mundita, 2013; Tjoe et al., 2019; Christianto, 2020; Arif, 2021). Therefore, the successful integration of local food systems into public programs appears to require institutional recognition and context-specific policy support. Without such recognition, local food-based interventions tend to be reduced to symbols or emergency alternatives (Enthoven & Van den Broeck, 2021; Garrity et al., 2024).

The marginalization of local food in MBG implementation is not merely a matter of taste or logistical challenges, but a representation of epistemic inequality between modern science and local knowledge in food policy. This signifies an "epistemological disconnection" between policy and ecological context, where local knowledge of adaptive food is not recognized within the formal national nutrition system. Meanwhile, studies from countries that have successfully implemented school feeding programs provide important lessons on integrating local food into program design (Horta et al., 2019; Carlisle et al., 2023; Liguori et al., 2024). In contrast, MBG implementation in Indonesia instead reinforces dependence on industrial food inputs.

e. Changing Children's Food Preferences and the Challenge of Nutrition Education

The phenomenon of children rejecting raw vegetables (local foods) and desiring urban-style foods such as burgers shows a transformation in food preferences shaped by consumer modernity.

As expressed by a kitchen manager who received a WhatsApp message from a teacher:

"*Because they were so happy to get burgers like they wanted, the children even cried, because burgers that they had only seen on television could finally be eaten*." (*Kitchen manager, Peduli Kasih Sumba Foundation*).

This expression confirms how strong the influence of modern food consumption is in marginalizing local food. Therefore, local food literacy among schoolchildren becomes an important issue, as the sustainability of MBG depends on cultural acceptance of the provided menus. Studies by Wang et al. (2021), Cohen et al. (2021), Carlisle et al. (2023), Borbely et al. (2024), Parnham et al. (2024), and Pramesthi et al. (2025) emphasize that nutrition education in schools is a key component of successful free school meal programs. In Sumba, however, changing food preferences reflect a growing gap between MBG menus and local food habitus. Teachers therefore play a crucial role in bridging this gap through experiential and locally grounded nutrition education. This approach aligns with Glowacki-Dudka et al. (2013) concept of community food learning, which emphasizes ecological awareness and cultural pride in local food systems.

f. Tangible but Limited Effects

The implementation of MBG in schools has produced immediate effects, including reduced student absenteeism and improved learning readiness, particularly among children from low-income households.

As stated by a school principal in the MBG service area:

"*Before MBG, students from poor families were often weak, trembling, or sleepy during lessons because they did not eat at home. After MBG, they are no longer trembling or sleepy in class*." (*Principal of SD Deku-Deku*)

This finding is consistent with studies by Mostert (2021) and Kaur (2021), which show that school feeding programs significantly contribute to improved educational participation and child health. However, in the absence of local food diversification and sustainable supply systems, these positive impacts are likely to remain short-term. MBG continues to operate as a form of nutritional relief rather than nutritional transformation and has not yet become an instrument for reshaping food systems and children's consumption behavior in savanna regions.

Dialoguing field findings with the literature shows that MBG implementation in Sumba represents a contested space between two food regimes: an industrial food regime oriented toward efficiency and a local food regime rooted in ecological sustainability. The literature emphasizes that the success of school feeding programs should not be measured solely by the number of children served, but by the extent to which such programs integrate nutrition, education, local economies, and ecological dimensions (Sidaner et al., 2013; Horta et al., 2019; Swinburn et al., 2019; Monteiro et al., 2019; Liguori et al., 2024; Martinelli et al., 2025). In the Sumba context, MBG has achieved nutritional provision but has not yet addressed the dimensions of social and ecological justice envisioned in food sovereignty frameworks.

This study also reveals a tension between national policy objectives and local realities. This tension is not merely a matter of technical implementation, but reflects structural limitations in the process of policy localization. Policy localization is understood as the capacity of a policy to be contextually adapted to local social, economic, and ecological conditions. However, as observed in the case of the MBG program in Sumba, such adaptive space tends to be constrained by a centralized governance design, resulting in only partial forms of localization. In contrast, previous studies (Alves da Silva et al., 2023; Bundy et al., 2024; Watkins, 2024) suggest that successful policy localization depends largely on the extent to which local actors are granted decision-making discretion and supported by adequate institutional frameworks.

These limitations in policy localization have important implications for the sustainability of local food systems and may undermine food sovereignty at the community level. When local food is not substantively integrated into public programs, local food systems risk being positioned as secondary alternatives rather than as foundational components of food security. In this context, local governance plays a crucial role, not only as an implementing agent, but also as a site where negotiation between national standards and local needs takes place. Without strengthening this role, programs such as MBG are likely to reproduce dependence on standardized food systems, rather than fostering a transition toward more context-specific, inclusive, and sustainable food systems.

Therefore, the main challenge ahead is not only to expand MBG coverage, but to restructure its design to prioritize local foods, smallholder farmers, and culturally grounded nutrition education adapted to local ecologies. MBG must transform from a consumption-oriented program into an empowerment-oriented intervention shifting from merely feeding children to building equitable, healthy, and sustainable food systems.

The Sumba case shows that the primary challenge of national food policy in Indonesia lies not in the absence of local food resources, but in the limitations of governance frameworks in recognizing and integrating this diversity. Strengthening food security through national programs such as MBG should therefore be understood not only as a technical nutrition issue, but also as a political policy of recognition for the diversity of local food systems.

Conclusion

The findings indicate that the implementation of the Free Nutritious Meals Program (MBG) in Sumba remains in an experimental phase, revealing two contrasting faces: technical success in providing nutritious meals to schoolchildren, and structural failure in integrating social–ecological dimensions and local food systems into its implementation framework. Normatively, MBG policy opens space for the utilization of local food resources; however, in practice, implementation at the local level is severely constrained by centralized governance, rigid administrative standards, and an excessive emphasis on procedural compliance.

Empirically, MBG has contributed to reduced student absenteeism, improved learning concentration, and enhanced nutritional status among children from low-income households. These findings are consistent with studies from various countries (Mostert, 2021; Spill et al., 2024; Holfort & Rabe, 2024) demonstrating that school feeding programs are strongly correlated with educational performance and child health. Nevertheless, these achievements remain short-term and consumption-oriented.

From an institutional and policy perspective, MBG reveals weak accountability and participation in the selection of local implementing organizations. Socio-political relations and patronage networks have become the primary determinants in the distribution of program mandates, often disregarding institutional competence and technical capacity. This study also uncovers the marginalization of local foods and the hegemonization of hybrid food systems within MBG menus. Meanwhile, a substantial body of literature emphasizes that sustainable school feeding must be rooted in adaptive and context-specific local food systems (Sidaner et al., 2013; Horta et al., 2019; Carlisle et al., 2023; Liguori et al., 2024). When rice becomes the sole source of carbohydrates and other ingredients are drawn from industrial supply chains, MBG in Sumba effectively reproduces the homogenizing and ecologically detached bias of national food policy. Local food practices deeply adaptive to savanna ecology and embedded in community knowledge lose institutional legitimacy under a standardized program design. Consequently, the spirit of policy localization that underpins MBG remains far from being realized.

From a socio-cultural perspective, MBG has generated new dynamics in children's food preferences. The rejection of raw vegetables (*lalapan*) and the emergence of aspirations for "burgers" reflect a shift in children's consumption habitus toward a homogenized modern food culture detached from local roots. This reinforces the argument that school-based nutrition education is not merely about nutrient intake, but also about cultural literacy and the strengthening of regional food identities (Glowacki-Dudka et al., 2013; Christianto, 2020).

In conclusion, this article demonstrates that policy localization within a highly centralized governance context tends to be partial and symbolic. Rather than strengthening local food systems, the MBG program risks reproducing the marginalization of local foods unless accompanied by fundamental changes in policy design and in the distribution of authority between central and local governments.

Theoretical Implications

Theoretically, the findings of this study make an important contribution to the literature on policy localization by demonstrating that successful localization is not determined solely by the normative intentions of policy, but by governance structures that allow discretionary space for local actors. This study reinforces the argument that within highly centralized policy systems, localization is often reduced

to an administrative mechanism rather than a substantive process that recognizes the diversity of social–ecological contexts.

Furthermore, this research highlights the importance of a recognition perspective in the analysis of food policy. The inability of the MBG policy to recognize local food systems as legitimate and equal reveals that the failure of localization is also a failure of recognition of local knowledge, historical practices, and human–environment relations. Accordingly, this article extends food policy discourse beyond the distribution of nutrition toward the issue of recognition justice in food governance.

Policy Implications

From a policy perspective, these findings indicate that the sustainability and effectiveness of the MBG Program depend heavily on the state's capacity to balance national standardization with local flexibility. National food policies must move beyond a one-size-fits-all approach by creating genuine discretionary space for local governments and community actors to adapt program design to local social–ecological conditions.

Practically, this can be achieved through:

- Formal recognition of local foods as legitimate components within MBG menu standards;
- Relaxation of procurement and reporting mechanisms so that they are not oriented solely toward administrative compliance; and
- Integration of local knowledge into the formulation of national nutrition standards.

Without such changes, the MBG Program risks becoming a policy instrument that indirectly weakens local food systems, rather than strengthening sustainable and context-sensitive food security.

Limitations

This study is limited in its ability to provide an in-depth explanation of the structural and political mechanisms that contribute to the continued marginalization of local foods within Indonesia's national food security development framework. Despite the country's extensive diversity of local food resources many of which are well adapted to diverse geographical conditions food security policies at both national and local levels remain predominantly oriented toward rice as the primary staple, with limited consideration of ecological and social suitability across regions.

These limitations point to important avenues for future research, particularly studies that examine power relations, institutional logics, and political economic interests shaping national food policy preferences. Further research is also needed to explore how more pluralistic and ecologically grounded food policy designs can contribute to a national food security system that is more inclusive, climate-adaptive, and socially just, especially in semi-arid ecological contexts such as savanna regions.

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