Innovation Journal for Educational Research, 2026, 3 (1), 1-18
E-ISSN: 3089-5235

The Implementation of the Free Nutritious Meal Program and Its Impact on Students' Health and Attendance, as well as Stakeholders' Perceptions in Islamic Primary Schools in Bima

Suwandi[1*],Ira Aulia[2], Aqadiyah[3]

[1*]*Faculty of Teacher Training and Education, Muhammadiyah University of Mataram, Mataram 83115, Indonesia.*
[2,3]*faculty of Islamic studies, Muhammadiyah University of Mataram, Mataram 83115, Indonesia.*

*suwandi@ummat.ac.id

ABSTRACT

This study aims to analyze stakeholders' perceptions (students, parents, and teachers) of the implementation of the Free Nutritious Meal Program in Islamic primary schools (Madrasah Ibtidaiyah) as a government policy to support the fulfilment of students' nutritional needs. The findings indicate that students perceive the program as a healthy, free-meal initiative that helps them stay full, increases their learning motivation, and reduces unhealthy snacking. However, students also expect greater menu variety, improved food taste, and the provision of supporting facilities such as drinking water, utensils, and handwashing facilities. Parents consider the program highly beneficial in ensuring adequate nutrition for their children and alleviating the economic burden on families. Nevertheless, they emphasize the need for improvements in hygiene, timely food distribution, the involvement of nutritionists, and attention to special dietary needs, such as food allergies. Meanwhile, teachers view the Free Nutritious Meal Program as a strategic initiative to support students' health and concentration in learning. Teachers play an active role through persuasive and educational approaches to encourage students to consume the meals provided. Overall, the program's implementation is perceived positively, although improvements are still required in menu variety, food quality, food safety, and continuous monitoring and evaluation. Through collaboration among the government, schools, parents, and food providers, the Free Nutritious Meal Program has the potential to become an effective policy for supporting human resource development by fulfilling schoolchildren's nutritional needs.

Keywords: *Free Nutritious Meal Program; health; attendance; perception; stakeholders*

INTRODUCTION

Improving the quality of human resources remains a central priority in national development and must begin at an early age (Hariani et al., 2023; Widiastuti et al.,

Citation in APA style: Suwandi., Aulia, I., & Aqadiyah. (2026). The Implementation of the Free Nutritious Meal Program and Its Impact on Students' Health and Attendance, as well as Stakeholders' Perceptions in Islamic Primary Schools in Bima. *Innovation Journal for Educational Research, Vol. 3* (1), 1-18.

Received 16 February, 2026; Revised 2 March, 2026; Accepted 30 March, 2026

DOI: xxxx.xxxx.xxxx

2021), particularly through the education and health sectors (Alwi & Karismawan, 2023; Siregar et al., 2023). Primary school-aged children are in a critical phase of growth and development that significantly shapes their future physical, cognitive, and social capacities. One of the key determinants of educational success at this level is meeting adequate nutritional needs (Anggaraeningsih & Yuliati, 2022; Gannika, 2023). Malnutrition not only affects children's physical health but also influences their learning concentration, school attendance, and overall academic performance (Nuradhiani, 2023; Yuningsih & Kurniasari, 2021).

To support the fulfilment of students' nutritional needs, the government has introduced the Free Nutritious Meal Program (*Program Makan Bergizi Gratis/*MBG) as an integrated policy intervention that bridges the education and health sectors (Yuningsih & Kurniasari, 2021). The program aims to ensure that students receive a balanced diet during school hours (Herniati, 2025; Rahmayani et al., 2025; Warosari, 2025). Previous studies indicate that school feeding programs can improve students' health status, reduce absenteeism, and enhance motivation and participation in learning (Qomarrullah et al., 2025; Risnawati et al., 2026). Therefore, examining the implementation of this program is strategically important, particularly in faith-based primary education institutions such as Islamic Primary Schools.

Islamic Primary Schools possess distinctive characteristics (Akhmadi, 2023; Nurriqi, 2021) in terms of curriculum structure, students' socio-economic backgrounds, and their dual role as both educational institutions and centers for religious value formation (Akhmadi, 2023; Uyun, 2023). Beyond functioning as formal educational institutions, madrasahs also serve as centers for character and moral development (Abidin, 2025; Fauziah, 2023; Romadhon et al., 2023). In Indonesia, many students still face economic constraints within their families that may affect their daily nutritional intake (Irfan & Azmin, 2025; Kasman & Sumaryoto, 2023; Kurniati, 2023). This context makes the MBG Program particularly relevant for investigation within madrasahs in Bima Regency.

In addition to its impact on students' health and attendance, the success of the MBG Program in madrasahs is strongly influenced by the perceptions and support of key stakeholders, namely students, parents, and teachers (Azizi, 2025; Oktawila et al., 2025). Positive stakeholder perceptions can strengthen program sustainability, enhance participation, and improve implementation effectiveness. Conversely, negative perceptions or limited understanding of program objectives may hinder its implementation (Azizi, 2025; Widodo, n.d.). Research that examines not only program outputs but also stakeholder perceptions is therefore essential to providing a comprehensive understanding of MBG implementation in Bima Regency.

Various studies have demonstrated the benefits of school nutrition programs on nutritional status and several educational indicators, research that examines the impact of school nutrition programs on health, pupil attendance and the perceptions of stakeholders, covering pupils, parents, teachers and headteachers, remains relatively limited, particularly in the context of Madrasah Ibtidaiyah in Bima Regency. Most previous studies have focused more on nutritional aspects or general policy evaluation, whilst the extent to which the program is accepted by stakeholders has not yet been explored comprehensively. This study addresses this gap by analyzing the

implementation of the Nutritious Meals program in schools from a multidimensional perspective, with the aim of providing a more comprehensive picture of the relationship between the quality of program implementation, pupils' health and attendance, and the perceptions of stakeholders as a basis for refining MBG policy within primary madrasahs.

LITERATURE REVIEW

The Free Nutritious Meals Program is a form of public policy intervention that integrates the education, health and social protection sectors to improve the quality of human capital from primary school age onwards. Globally, similar policies are known as *School Feeding Program* (SFP), which has been implemented in various countries as a strategy to tackle malnutrition, improve household food security and enhance pupils' learning outcomes (Alabede et al., 2022). Various systematic reviews have shown that school meal program contribute to improved nutritional intake, increased pupil participation in school meal program, and improved academic achievement, particularly amongst children from low-income families (Dorlach et al., 2025). The impact on pupil attendance and academic achievement still varies depending on the quality of implementation, nutritional standards and the socio-economic context of each country.

In terms of implementation, the success of a nutritious meals program is determined not only by adequate funding, but also by governance that involves collaboration amongst stakeholders. Headteachers, teachers, parents, local authorities, food suppliers, nutritionists and the community all play complementary roles in ensuring the quality of the service (Cupertino et al., 2022). The latest literature confirms that cross-sectoral coordination, effective communication, transparency, monitoring mechanisms and ongoing evaluation are key factors determining the success of the implementation of school nutrition program (Aurino et al., 2023). Conversely, poor coordination, inconsistent food quality, limited storage facilities and a lack of operational standards are often the causes of the program's low effectiveness and high levels of food waste in schools.

From a public health perspective, meeting the nutritional needs of schoolchildren has significant implications for both physical and psychological well-being. Studies examining the long-term impact of the Free Nutritious Meal Program suggest that its implementation may reduce the prevalence of malnutrition and improve students' health, school attendance, and academic achievement (Adinda & Jamal, 2026; Prasetyo et al., 2025; Tanziha et al., 2025). This aligns with the human development approach, which positions nutrition as a fundamental pillar in building productive and sustainable human capital (Kamalawati et al., 2025; Syakir & Noviani, 2025). At the primary school level, MBG has been shown to improve nutritional status, reduce stunting rates, and enhance students' concentration and attendance (SB Kairupan, 2025). These findings indicate that school feeding programs address not only children's physiological needs but also broader educational outcomes, including active engagement in the learning process (JFW Cohen, S Verguet, BB Giyose, 2023; MK Spill, R Trivedi, RC Thoerig, 2024).

Beyond direct educational and health outcomes, the effectiveness of school feeding programs is also reflected in psychosocial aspects and students' learning

motivation. Evaluative studies of free school lunch programs report positive effects on nutrition, health, and academic motivation, although challenges such as menu variation and program management remain (Nurulaini & Afifah, 2025; Rahmayani et al., 2025). These findings reinforce the argument that multi-stakeholder involvement—teachers, parents, and school administrators—is essential to ensure program acceptance and quality (Notha et al., 2025; Widyatmoko et al., 2026; Yuniar et al., 2025).

Stakeholder perceptions and support inherently shape the implementation of nutrition policies *(Dzakiyah et al., 2025; Santoso et al., 2025)*. Cross-national studies on stakeholder perceptions of school nutrition programs (mid-day meal initiatives) demonstrate that students, parents, and teachers generally perceive such programs as beneficial for health, attendance, and academic outcomes, despite challenges related to funding and infrastructure limitations (Joshi & Bohara, 2025). These findings underscore stakeholder perspectives as a critical variable in evaluating program effectiveness and sustainability.

Complementing this discussion, public policy theory in education emphasizes that MBG implementation constitutes a complex process influenced by organizational structures, resource availability, and community participation. The effectiveness of free nutritious meal programs is closely linked to implementation management, cross-sectoral coordination, and local community engagement (Agustini, 2025). Theoretically, this perspective aligns with policy implementation theory, which posits that the success of public policies depends on the synergy between policy design and contextual implementation dynamics (Purtle et al., 2023; Sun et al., 2024).

Based on the foregoing discussion, this study aims to analyze the implementation of the Free Nutritious Meal Program and its impact on students' health and attendance, and to examine stakeholders' perceptions at Madrasah Ibtidaiyah in Bima Regency. This research is expected to provide empirical contributions to the development of education and child health policies, particularly in optimizing school feeding programs within madrasahs. Furthermore, the findings are anticipated to serve as a basis for evaluation and policy recommendations to enhance the quality and sustainability of the Free Nutritious Meal Program in the future.

METHODS

This study employed a descriptive qualitative approach (Safarudin et al., 2023; Waruwu, 2024) to gain an in-depth understanding of how students, parents, and teachers perceive the implementation of the Free Nutritious Meal Policy (*Program Makan Bergizi Gratis*/MBG) in Islamic primary education institutions. This approach was selected to explore participants' experiences, perceptions, and subjective interpretations regarding the benefits, management, and challenges encountered during program implementation. Qualitative research is particularly relevant for examining educational policies that involve social interaction, dynamic implementation processes, and diverse school contexts.

The research sites were selected using purposive sampling, with Madrasah Ibtidaiyahs in Bima Regency that had routinely implemented the MBG program and represented diverse socio-economic backgrounds. Informants were also selected purposively based on their direct involvement in the program, including students as

primary beneficiaries, parents as parties responsible for monitoring children's health and household economic conditions, and teachers as actors responsible for supervision and technical implementation within schools. The number of informants was determined by data saturation, which occurred when the information obtained became repetitive, and no new findings emerged.

Data were collected through three primary techniques: in-depth interviews, direct observation, and questionnaires (Nurfajriani et al., 2024; Susanto & Jailani, 2023). In-depth interviews were conducted to explore students', parents', and teachers' perceptions, experiences, and recommendations regarding the benefits, management, and constraints of the MBG program. Direct observation was conducted to monitor the food distribution process, the hygiene conditions of food containers, the punctuality of distribution, menu variation, and students' acceptance of the meals provided.

To ensure data quality and credibility, this study applied source triangulation and methodological triangulation (Susanto & Jailani, 2023). Source triangulation was conducted by comparing information obtained from students, parents, and teachers to examine the consistency of perceptions among stakeholders. Methodological triangulation was implemented by integrating data obtained from interviews, observations, and questionnaires to generate a more objective and comprehensive understanding. Data validity was further strengthened through member checking, whereby selected informants were asked to verify the accuracy of the researcher's interpretations of the analyzed data.

Data analysis was conducted interactively using the model proposed by Miles et al. (1996), which consists of data reduction, data display, and conclusion drawing. During the data reduction stage, researchers selected and focused on essential information relevant to the research objectives, including perceived benefits for students, the economic burden on parents, the quality of food management, and implementation challenges. Data display was conducted by organizing findings into thematic matrices, participant quotations, and field finding tables. In the final stage, conclusions were drawn through an interpretive process to understand the meaning and policy implications of the MBG program for students' lives and for the dynamics of primary education holistically. The data analysis process follows the flow diagram illustrated in Figure 1.

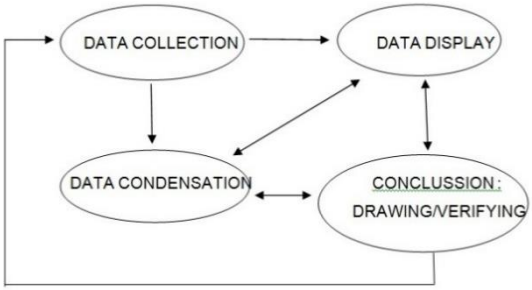


Figure 1. Data Analysis Flow Diagram Based on the Miles and Huberman Model

RESULTS AND DISCUSSIONS

4.1. Results

The findings indicate that the implementation of the Free Nutritious Meal Program in Madrasah Ibtidaiyah across Bima Regency is generally categorized as good. This is reflected in the program's relatively consistent execution, timely food distribution, and active involvement of madrasah authorities in supervising its implementation. These findings align with public policy implementation theory, which posits that the clarity of implementation standards influences policy implementation success, the availability of resources, and effective communication among implementing actors. In this context, coordination among madrasah administrators, teachers, and program providers has been a critical enabler of the successful implementation of the MBG program in Bima Regency (Interview with Sumarni, S. Pd., Principal of MI Al-Ikhlas, Donggo, Bima Regency).

From a student health perspective, the study reveals observable improvements in physical well-being following participation in the MBG program. The majority of students reported reduced hunger during class hours, increased physical fitness, and fewer physical complaints throughout the learning process. These findings support school nutrition theory by Pollit (1989) and Worsley (2020), which emphasizes that consistent nutritional intake during the primary school years significantly contributes to both physical and cognitive functioning. The provision of balanced nutrition through the MBG program plays a crucial role in maintaining students' stamina and supporting sustained engagement in classroom activities (Johnston et al., 2024; Mukra et al., 2024).

In addition to its health-related outcomes, the MBG program demonstrates a positive influence on student attendance. The data indicate an increase in attendance rates following program implementation, particularly among students who previously had higher absenteeism rates. This finding is consistent with the school feeding program framework by Bundy (2024) and Niyibizi et al. (2024), which suggests that school meal initiatives can serve as incentives for regular school attendance. By addressing students' basic nutritional needs, the program enhances their motivation to participate consistently in learning activities (Warosari, 2025; Wiranata et al., 2025).

Nevertheless, the findings do not fully align with critical perspectives in the literature. Some scholars argue that improvements in attendance cannot be attributed solely to school feeding programs but are also influenced by family support, teaching quality, and broader social environments (Rosyadi, 2024; Warosari, 2025). Therefore, the MBG program should be understood as a supporting factor rather than the sole determinant of improved attendance. This underscores the importance of viewing program effectiveness holistically and integrating it with broader educational policies and interventions.

Regarding stakeholder perceptions, the results show that students, parents, and teachers generally hold positive views of the MBG program. Parents perceive the initiative as instrumental in fulfilling children's nutritional needs and alleviating household economic burdens, while teachers observe improvements in students' concentration and readiness to learn. These findings reinforce stakeholder engagement theory advanced by Freeman, which emphasizes that stakeholder acceptance and support strongly shape program success (Freeman et al., 2017; Shah & Guild, 2022).

Positive stakeholder perceptions constitute essential social capital for sustaining and institutionalizing the program. The detailed findings from each stakeholder group are elaborated in the following sections.

4.1.1. Students' Perceptions

Students' perceptions of the Free Nutritious Meal Program in madrasahs are generally positive. Students understand MBG as a free, healthy school meal initiative that helps them stay full during the learning process. The program is perceived as beneficial because it reduces hunger during class hours, increases enthusiasm for learning, and prevents unhealthy snacking outside the school environment. Furthermore, MBG is viewed as a form of institutional and governmental concern in supporting balanced nutrition, health, and students' physical well-being.

Despite these positive perceptions, students also expressed constructive feedback for program improvement. They emphasized the importance of better-tasting food, softer texture, adequate side-dish portions, and the provision of supporting facilities such as drinking water and eating utensils to enhance program effectiveness and acceptance. The detailed findings regarding students' perceptions of MBG in Bima Regency are presented in Table 1.

Table 1. Findings on Students' Perceptions of the MBG Program in Bima Regency

Aspect Explored	Students' Perceptions	Research Findings
Students' understanding of MBG	MBG is understood as a free and healthy meal program at school	Students recognize MBG as a daily, free, nutritious meal intended to ensure they remain full, healthy, and strong, and to avoid unhealthy snacking. The program is also perceived as enhancing learning motivation and fostering togetherness among peers.
Desired menu additions or changes	Students expect greater menu variety and preferred side dishes.	Many students requested additional side dishes such as fish, fried or spicy chicken, beef, tofu and tempeh, more eggs, and fruits (e.g., papaya, mango, watermelon). Some suggested replacing rice with bread or offering variations such as yellow rice. Several students expressed dislike for certain vegetables and suggested reducing or substituting them, as well as adding drinking water and milk.
Aspects requiring improvement	Improvements in taste, menu variation, and supporting facilities	Students suggested that meals should taste better, not be too hard or oily, and that vegetable options should not be monotonous or bitter. They also recommended providing drinking water, spoons, handwashing facilities, and larger portions of side dishes. Some students noted that the program is already satisfactory and requires minimal improvement.

Overall, students demonstrate a favorable perception of the MBG program, recognizing its role in fulfilling their nutritional needs, enhancing school motivation, and reducing unhealthy snacking behaviors. Nevertheless, they expect improvements in menu diversity, particularly the inclusion of preferred protein sources such as fish and chicken, as well as enhancements in taste, meal presentation, and the provision of complementary items such as drinking water and milk.

4.1.1. Parents' Perceptions

Parents' concerns about the Free Nutritious Meal Program (MBG) are understandable, particularly in light of widely reported food poisoning incidents linked to the program in several regions of Indonesia. Media coverage has highlighted multiple large-scale cases. For instance, CNN Indonesia (2025) reported that as of 22 September 2025, the National Nutrition Agency (BGN) recorded 4,711 food poisoning cases across seven regions, including 1,281 cases in Sumatra, 2,606 cases in Java, and 824 cases across Kalimantan, Bali, Sulawesi, East Nusa Tenggara, Maluku, and Papua. Meanwhile, the Indonesian Education Monitoring Network reported a higher figure of 6,452 cases as of 21 September 2025.

Similarly, TIMES Indonesia (2025) reported an incident in Kudus, Central Java, where at least 118 students required medical treatment due to suspected food poisoning linked to the MBG menu and in Cianjur, West Java, another mass poisoning incident reportedly affected 240 individuals (TIMES INDONESIA, 2025). Furthermore, (2025), citing data curated by Celios, estimated that food poisoning cases related to MBG between January and November 2025 exceeded 15,000, with projections exceeding 22,000 by mid-2026 if not properly addressed. These incidents prompted the Coordinating Minister for Food Affairs to temporarily suspend problematic Nutrition Fulfilment Service Units for evaluation and investigation. Emphasis was placed on improving food discipline and quality control, utensil sterilization, sanitation processes, water quality, and waste management systems. The Sanitation and Hygiene Eligibility Certificate, previously a formal requirement, was declared mandatory to prevent future incidents (Bbc.com, 2025).

Within this broader national context, parents in Bima Regency demonstrate both supportive and cautious attitudes toward the implementation of the MBG program. Their perceptions are summarized in Table 2.

Table 2. Findings on Parents' Perceptions of the MBG Program in Bima Regency

Aspect Explored	Parents' Perceptions	Research Findings
Parents' understanding of MBG	MBG is understood as a government assistance program providing healthy and nutritious meals at school	Parents recognize MBG as a free lunch initiative aimed at fulfilling children's nutritional needs, supporting growth and development, improving health, and enhancing concentration during learning. The program is also perceived as reducing unhealthy snacking habits and alleviating household economic burdens.
Aspects requiring improvement	Focus on menu variation, hygiene,	Parents emphasized the importance of menu diversity to prevent boredom, timely

Aspect Explored	Parents' Perceptions	Research Findings
	and program management.	distribution to avoid disrupting lessons, and stricter supervision of food hygiene and quality. Suggestions included reducing oily foods, offering more boiled or soup-based menus, and providing drinking water and milk daily. Some parents considered the program beneficial but recommended improving both quality and quantity.
Recommendations for future implementation	Strengthening nutritional quality, routine evaluation, and attention to children's special needs	Parents proposed increasing the number of high-protein side dishes, involving nutritionists in menu planning, and conducting regular evaluations that incorporate feedback from students and guardians. They also stressed the importance of identifying children with food allergies to ensure safety. While most parents supported program continuation and broader socialization at the household level, a small number expressed concerns regarding potential fiscal burdens on the state budget.

Overall, parents perceive the MBG program as a positive public policy that supports children's nutritional fulfilment, reduces unhealthy snacking, and enhances students' health and learning motivation. Nevertheless, they underscore the need to strengthen menu variety, hygiene standards, supervision mechanisms, healthier menu options, nutritionist involvement, and systematic monitoring and evaluation to ensure optimal, targeted program implementation.

From a stakeholder theory perspective, these findings illustrate a dual dimension of parental perception—supportive yet critical—which reflects rational public engagement in policy oversight. Such constructive scrutiny may catalyze improving governance quality, transparency, and accountability in the implementation of school-based nutrition programs.

4.1.1. Teachers' Perceptions

Teachers' perceptions of the Free Nutritious Meal Program are generally highly positive. Teachers regard MBG as an important government initiative aimed at supporting students' nutritional fulfilment, improving health conditions, and enhancing learning concentration at school. The program is considered particularly beneficial for students who often miss breakfast at home, thereby functioning as a practical solution to maintain their energy levels and learning motivation. Moreover, teachers perceive MBG as contributing to children's growth and development and to the broader objective of improving human resource quality by fulfilling basic nutritional needs.

Despite their positive assessment, teachers also identified several areas requiring improvement in program implementation. They emphasized the importance

of menu variation to prevent student boredom and recommended more attractive food presentation tailored to children's preferences. Additionally, hygiene standards, food quality, safety assurance, and punctual distribution were highlighted as critical factors to ensure that the program operates effectively without disrupting instructional activities. For future sustainability, teachers proposed greater menu innovation, the involvement of professional nutritionists, routine monitoring and evaluation, and stronger coordination among schools, food providers, and government authorities to optimize program acceptance and effectiveness. The empirical findings on teachers' perceptions of MBG implementation in Bima Regency are presented in Table 3.

Table 3. Findings on Teachers' Perceptions of the MBG Program in Bima Regency

Aspect Explored	Teachers' Core Perceptions	Research Findings
Teachers' understanding of MBG	MBG is understood as a government program providing free, healthy, and nutritious meals for students	Teachers recognize MBG as a national initiative aimed at improving nutrition, supporting health, enhancing concentration during learning, and assisting students who do not have time for breakfast at home. The program is also perceived as contributing to human resource development and children's growth.
Strategies to address students who are reluctant to consume MBG meals	Teachers apply persuasive and educational approaches	Teachers typically explain the nutritional benefits of meals, motivate students to value food, gently encourage participation without coercion, and explore reasons for food refusal (e.g., taste, texture, allergies). Some teachers allow students to bring lunch boxes if necessary.
Aspects requiring improvement in implementation	Improvements focused on menu variety, presentation, portion size, and food safety.	Teachers suggested increasing menu diversity to avoid monotony, improving taste and presentation, adjusting portion sizes, ensuring timely distribution, and strengthening hygiene and safety supervision to prevent food poisoning and food waste.
Recommendations for program sustainability	The program should continue with consistency, innovation, and ongoing monitoring and evaluation.	Teachers expect MBG to continue regularly and safely, with more creative menus aligned with children's preferences. They recommend involving nutritionists, ensuring transparency, and strengthening monitoring, evaluation, and collaboration among schools, providers, and government agencies. Efficient budget management was also highlighted to maintain program stability.

Overall, teachers perceive MBG as a positive intervention that supports students' nutritional needs and enhances the learning process. Teachers actively contribute by encouraging students to consume the provided meals through educational and motivational strategies. However, program implementation still requires improvement, particularly regarding menu variation, food presentation quality, food safety standards, and continuous monitoring and evaluation to ensure greater effectiveness and student acceptance.

The study also identified several critical reflections from stakeholders, particularly concerning menu diversity and food hygiene. Some respondents noted that menu options remain limited and should be better aligned with children's nutritional needs and preferences. These findings resonate with service quality theory, which posits that user satisfaction is shaped by dimensions such as reliability, hygiene, responsiveness, and alignment between service delivery and user expectations (Adinda & Jamal, 2026). Inadequacies in these dimensions may reduce program effectiveness if left unaddressed.

In general, this study confirms that the Free Nutritious Meal Program contributes positively to students' health and attendance and is well perceived by stakeholders in Islamic Primary Schools across Bima Regency, despite existing critiques and recommendations for improvement. The findings reinforce human capital development theory, which positions nutrition as a foundational pillar of educational success (Hariani et al., 2023), while simultaneously affirming the critical perspective that policy success depends heavily on implementation quality and local contextual dynamics. Therefore, optimizing the MBG program requires strengthened implementation management, improved food quality standards, and sustained stakeholder engagement to maximize its impact on education, student attendance, and health outcomes (Interview with Jumadin, S.Pd.I., Principal of Islamic Primary Schools Punti, Donggo, Bima Regency).

4.2. Discussion

4.2.1. Discussion of Students' Perceptions

Students perceive the Free Nutritious Meal Program as a school-based initiative that provides nutritious meals to help them feel full, healthy, and physically strong, while reducing unhealthy snacking. Beyond its physical benefits, students believe that MBG enhances their motivation to learn and strengthens their peer relationships. These findings align with Maslow's hierarchy of needs, which posits that the fulfilment of physiological needs-such as food and drink-constitutes the foundational level that must be satisfied before individuals can pursue higher-order needs, including learning motivation and self-actualization (Maslow & Lewis, 1987). Accordingly, MBG may support students' learning readiness by fulfilling these basic needs.

However, critical perspectives on Maslow's theory argue that satisfying physiological needs does not automatically enhance academic motivation, as psychological factors, family environment, and instructional quality also significantly influence learning outcomes. Thus, while MBG contributes to physical readiness, academic achievement remains multidimensional.

Students expressed expectations for greater menu variety, including additional protein sources such as fish, chicken, beef, tempeh, tofu, eggs, and fruits, as well as diversified

carbohydrate options such as bread or yellow rice. These findings support food acceptance theory, which asserts that taste preferences, eating habits, prior experiences, and menu diversity strongly influence food acceptance and consumption among school-aged children (Costell et al., 2010). When meals are perceived as appealing and aligned with preferences, consumption levels tend to increase.

Nevertheless, some students' preference to reduce vegetable intake due to perceived bitterness or monotony indicates resistance to certain nutritious components. This tendency poses a challenge to the program, as it contradicts the principles of balanced nutrition, which emphasize the importance of vegetables as sources of fiber, vitamins, and minerals. Nutritional theories further suggest that children's inclination toward protein- and carbohydrate-rich foods, coupled with low vegetable intake, may lead to a dietary imbalance unless accompanied by sustained nutrition education and habituation strategies.

In addition to menu variety, students highlighted the importance of taste and texture, such as avoiding overly hard or oily foods and requested supporting facilities, including drinking water, proper utensils, handwashing stations, and adequate portion sizes. These findings indicate that the success of school feeding programs depends not only on nutritional content but also on taste, presentation, and supporting infrastructure. Within the framework of school health program theory, effective nutritional interventions must be integrated with sanitation support, adequate dining facilities, and periodic menu evaluation to ensure acceptability and sustainability (Symons et al., 1997). However, an overly preference-oriented approach may risk shifting the program's educational objective from cultivating healthy eating habits toward merely satisfying student tastes. Therefore, a balance between nutritional standards, student preferences, and educational goals is essential in MBG implementation.

4.2.2. Discussion of Parents' Perceptions

Parents perceive the MBG Program as a free school lunch initiative aimed at fulfilling children's nutritional needs, supporting growth and development, improving health, and enhancing concentration during learning. The program is also believed to reduce unhealthy snacking habits and provide economic relief for families with limited financial resources. These findings support social welfare theory, which emphasizes the role of state interventions in improving citizens' well-being through basic service provision. However, some critical perspectives warn that such programs may create dependency if not accompanied by family empowerment strategies and sustained nutrition education (Citaristi, 2022).

Parents emphasized the need for menu variation to prevent boredom, timely food distribution to avoid disrupting instructional time, and stricter supervision of food hygiene and quality. Additional suggestions included reducing oily foods, offering more boiled or soup-based dishes, and providing drinking water and milk. While many parents acknowledged that the program has been implemented effectively, they noted that improvements in food quality and quantity are still necessary.

These findings are consistent with public policy implementation theory, which holds that program success depends not only on policy objectives but also on implementation quality, distribution management, and beneficiary satisfaction (Edmond, 2023). The emphasis on hygiene and food safety also aligns with food safety

principles within school health programs, which identify sanitation and food quality as prerequisites for effective nutritional interventions. Conversely, budget limitations, supplier capacity, and logistical complexities may weaken program performance if not properly managed.

Furthermore, parents recommended increasing high-protein menu options, involving nutritionists in menu planning, and conducting periodic evaluations based on feedback from students and guardians. They also stressed the importance of identifying children with food allergies to mitigate health risks. Many parents expressed hope that MBG would continue and foster sustainable, healthy eating patterns within families. These findings reinforce stakeholder participation theory, which posits that the sustainability and effectiveness of public policies depend heavily on active community involvement.

Nevertheless, a minority of parents expressed concerns that the program might strain the national budget (Shah & Guild, 2022). This critique aligns with critical policy perspectives, which argue that program effectiveness and efficiency must be weighed against other national development priorities, including teacher welfare, educational infrastructure improvement, and poverty alleviation.

4.2.3. Discussion of Teachers' Perceptions

Teachers recognize MBG as a national program aimed at improving students' nutritional status, supporting health and concentration in learning, and assisting students who may not have breakfast at home. The program is also viewed as contributing to human capital development through early nutritional investment. These findings align with human capital theory, which emphasizes that child nutrition constitutes a strategic investment in long-term human resource development (Attanasio et al., 2022). From an educational standpoint, adequate nutrition enhances learning readiness and academic performance.

In practice, teachers adopt persuasive and educational approaches to encourage students to consume the meals. They explain the nutritional benefits, motivate students to appreciate food, avoid coercion, and inquire about the reasons for food refusal (e.g., taste, texture, allergies), sometimes suggesting practical solutions, such as bringing lunch containers. This approach corresponds with humanistic pedagogy, which emphasizes empathy, motivation, and respect for students' individual needs. Teachers thus function as facilitators in cultivating healthy eating behaviors and positive habits.

Teachers highlighted the need for greater menu variety, improved taste and presentation, appropriate portion sizes, timely distribution, and strict hygiene and food safety supervision to prevent food waste or health risks. These findings are consistent with public policy implementation theory, which underscores service quality, managerial capacity, and beneficiary satisfaction as determinants of program success. The emphasis on food safety also aligns with school health program principles aimed at establishing a healthy school environment (Mpofu, 2023).

Teachers expressed hope that MBG would continue regularly and safely, with creative menus aligned with children's preferences. They recommended involving nutrition experts, ensuring transparency, and strengthening monitoring, evaluation, and collaboration among schools, food providers, and government authorities. Efficient budget management was also suggested to ensure program stability. These findings

support collaborative governance theory, which highlights the importance of cross-sectoral synergy (government, schools, parents, providers) for sustainable program implementation. Routine monitoring and evaluation further reflect an evidence-based policy approach to ensure effectiveness and fiscal efficiency.

CONCLUSION

This study demonstrates that the implementation of the Free Nutritious Meal Program in Madrasah Ibtidaiyahs across Bima Regency has been generally effective. The program has been implemented with relative consistency, supported by school administrators, teachers, and program organizers, thereby fulfilling its primary objective of providing nutritious meals to students. Coordination mechanisms and active involvement at the school level have emerged as critical factors in the successful implementation of the program within the educational setting.

The findings further indicate that the Free Nutritious Meal Program has had a positive impact on students' health and school attendance. Students exhibited improved physical condition, reduced hunger complaints during instructional hours, and increased attendance at the madrasah. Adequate nutritional intake supports learning readiness and student participation, although these outcomes are also influenced by external factors beyond the program's scope.

From the perspective of key stakeholders-students, parents, and teachers the Free Nutritious Meal Program is perceived positively and considered to provide tangible benefits for both students and their families. The program is regarded as supportive of the learning process while simultaneously alleviating parents' economic burden. Nevertheless, continuous improvement remains necessary, particularly in terms of menu diversification and the enhancement of food hygiene and quality standards, to ensure that the program's benefits are optimized and sustainably maintained in Madrasah Ibtidaiyah throughout Bima Regency.

Declaration of Conflicting Interests
There is no conflict of interest regarding the article publication

Acknowledgments
Thank you to the Muhammadiyah University of Mataram for supporting this research.

REFERENCES

Abidin, Z. (2025). Peran Pembelajaran Fiqih dalam Pembentukan Karakter Siswa di Madrasah Ibtidaiyah Negeri 1 Indragiri Hilir. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(02), 221–232.

Adinda, A. S., & Jamal, N. (2026). Effectiveness of the Free Nutritious Meal (MBG) Program Policy on Improving Students' Health Quality and Learning Productivity. *Golden Ratio of Data in Summary*, *6*(1), 35–45.

Agustini, U. (2025). Efektivitas dan tantangan kebijakan program makan bergizi gratis sebagai intervensi pendidikan di Indonesia. *Jurnal Kiprah Pendidikan*, *4*(3), 362–368.

Akhmadi, A. (2023). Implementasi Kurikulum Merdeka di Madrasah Ibtidaiyah. *Andragogi: Jurnal Diklat Teknis Pendidikan Dan Keagamaan*, *11*(1), 33–44.

Alwi, M., & Karismawan, P. (2023). Analisis Penetuan Prioritas Sektor Ekonomi Dalam Pembangunan Daerah Pada Setiap Kabupaten Penyangga Kota Mataram Sebagai Pusat

Pertumbuhan Di Pulau Lombok. *Elastisitas: Jurnal Ekonomi Pembangunan*, *5*(1), 43–55.
Anggaraeningsih, N. L. M. D. P., & Yuliati, H. (2022). Hubungan status gizi balita dan perkembangan anak balita di kelurahan liliba kecamatan oebobo. *Jurnal Health Sciences*, *3*(7), 830–836.
Attanasio, O., Cattan, S., & Meghir, C. (2022). Early childhood development, human capital, and poverty. *Annual Review of Economics*, *14*(1), 853–892.
Azizi, M. S. I. (2025). Kontroversi Pendanaan dan Efektivitas Program Makan Gratis di Sekolah Dasar. *Arunika Widya: Jurnal Pendidikan Dasar Dan Menengah*, *1*(1), 77–88.
Bundy, D. A. P., Gentilini, U., Schultz, L., Bedasso, B., Singh, S., Okamura, Y., Iyengar, H. T. M. M., & Blakstad, M. M. (2024). School Meals, Social Protection, and Human Development: Revisiting Trends, Evidence, and Practices in South Asia and Beyond. *Social Protection & Jobs Discussion Paper*, *2401*.
Citaristi, I. (2022). Social Welfare and Human Rights. In *The Europa Directory of International Organisations 2022* (pp. 859–863). Routledge.
Costell, E., Tárrega, A., & Bayarri, S. (2010). Food acceptance: The role of consumer perception and attitudes. *Chemosensory Perception*, *3*(1), 42–50.
Dzakiyah, A. N., Andryandy, T., Kuswanto, F. R. H., & Syahrevi, I. (2025). Strategi Public Relations Politik Pemerintahan Prabowo Dalam Program Makan Bergizi Gratis. *Al-Zayn: Jurnal Ilmu Sosial & Hukum*, *3*(5), 6885–6899.
Edmond, B. C. (2023). Public Policy Implementation and Workforce Diversity: How Important is the Latter in Enhancing Policy Outcomes? In *Street-Level Public Servants* (pp. 88–109). Routledge.
Fauziah, I. (2023). Urgensi Pembentukan Karakter Religius Peserta Didik melalui Pembelajaran Al-Qurân Hadits di Madrasah Ibtidaiyah. *Tarbiyatuna: Jurnal Pendidikan Ilmiah*, *8*(1), 87–102.
Freeman, R. E., Kujala, J., Sachs, S., & Stutz, C. (2017). Stakeholder engagement: Practising the ideas of stakeholder theory. In *Stakeholder engagement: Clinical research cases* (pp. 1–12). Springer.
Gannika, L. (2023). Hubungan status gizi dengan tumbuh kembang pada anak usia 1-5 tahun: Literature review. *Journal of Nursing*, *7*(1), 668–674.
Hariani, E., Widyawati, R. F., & Muhammad, R. T. (2023). Pencegahan Stunting dalam Peningkatan Kualitas Sumber Daya Manusia Di 11 Kabupaten Jawa Timur. *Jurnal Ekonomi Bisnis, Manajemen Dan Akuntansi (JEBMA)*, *3*(3), 949–956.
Herniati, N. (2025). Efektivitas Program Pemerintah MBG (Makan Bergizi Gratis) Terhadap Minat Belajar Anak Usia Dini. *Jurnal Pendidikan AURA (Anak Usia Raudhatul Atfhal)*, *6*(1), 88–98.
Irfan, I., & Azmin, N. (2025). Pengaruh Faktor Keluarga Terhadap Dorongan Belajar Siswa di SMAN 3 Sape Kabupaten Bima. *Edu Sociata: Jurnal Pendidikan Sosiologi*, *8*(1), 217–221.
JFW Cohen, S Verguet, BB Giyose, D. B. (2023). *Universal free school meals: the future of school meal programmes?* The Lancet, thelancet.com
Johnston, E. A., Ayre, S. K., Au-Yeung, Y. T., & Goodwin, B. C. (2024). A scoping review of group nutrition education and cooking programs for people affected by cancer. *Journal of the Academy of Nutrition and Dietetics*, *124*(10), 1302–1327.
Joshi, H. P., & Bohara, K. (2025). Stakeholder Perceptions Among School Nutrition and Mid-Day Meal Programme. *Journal of Research in Education*, *1*, 57–72.
Kamalawati, N., Febrina, N. R., Wijayanti, N., Hanoselina, Y., Wialdi, P. F., & Jumiati, J. (2025). Ekspansi Program Makan Bergizi Gratis (MBG) dalam Penanggulangan Stunting dan Peningkatan Kualitas Sumber Daya Manusia. *Jurnal Intelek Insan Cendikia*, *2*(12), 19033–19045.
Kasman, Y., & Sumaryoto, S. (2023). Pengaruh Kondisi Sosial Ekonomi Dan Motivasi Belajar Terhadap Prestasi Belajar Ekonomi: Studi Pada SMA Negeri di Kabupaten Bima. *Herodotus:*

Jurnal Pendidikan IPS, *5*(3), 228–240.
Kurniati, A. (2023). Pengaruh Pola Asuh Orang Tua Terhadap Perilaku Ekonomi Anak Di Dusun Due Desa Parangina Kecamatan Sape Kabupaten Bima Tahun 2023/2024. *Jurnal PenKoMi: Kajian Pendidikan Dan Ekonomi*, *6*(2), 203–211.
Maslow, A., & Lewis, K. J. (1987). Maslow's hierarchy of needs. *Salenger Incorporated*, *14*(17), 987–990.
Miles, M. B., Huberman, A. M., Saldana, J., & Rohidi, T. R. (1996). F. Analisis Data. *IMPLEMENTASI KURIKULUM MERDEKA DI SEKOLAH*, 61.
MK Spill, R Trivedi, RC Thoerig, A. B. (2024). *Universal free school meals and school and student outcomes: a systematic review*. jamanetwork.com
Mpofu, J. J. (2023). Overview and methods for the Youth Risk Behaviour Surveillance System—United States, 2021. *MMWR Supplements*, *72*.
Mukra, R., Silalahi, D. R. S. U., Sembiring, S. S. A. B., Ritonga, V. A., Putri, D. F., & Putri, A. D. (2024). The effect of a healthy diet on student concentration and learning outcomes in project-based learning animation. *JPBIO (Jurnal Pendidikan Biologi)*, *9*(2), 322–331.
Niyibizi, O., Micomyiza, A., Bibakumana, G., Uwitatse, M. C., & Mutarutinya, V. (2024). Teachers' Perceptions of Influence of Daily School Feeding Programs on Student Participation and Dropout Rates. *Journal of Classroom Practices*, *3*(1), 26–39.
Notha, M., Sari, S. M., & Zahraini, Z. (2025). Penerapan Implikasi MBG (Makan Bergizi Gratis) di Sekolah Dasar. *EDU SOCIETY: Jurnal Pendidikan, Ilmu Sosial Dan Pengabdian Kepada Masyarakat*, *5*(3), 1302–1310.
Nuradhiani, A. (2023). Faktor risiko masalah gizi kurang pada balita di Indonesia. *Jurnal Ilmiah Kesehatan Masyarakat Dan Sosial*, *1*(2), 17–25.
Nurfajriani, W. V., Ilhami, M. W., Mahendra, A., Afgani, M. W., & Sirodj, R. A. (2024). Triangulasi data dalam analisis data kualitatif. *Jurnal Ilmiah Wahana Pendidikan*, *10*(17), 826–833.
Nurriqi, A. (2021). *Karakteristik Pendidikan Agama Islam Di Madrasah Prespektif Kebijakan Pendidikan*.
Nurulaini, R., & Afifah, D. F. (2025). Implementasi Program MBG Untuk Meningkatkan Gizi Anak Sekolah Dasar di Kota Semarang 2025. *Jurnal Sosial Teknologi*, *5*(11), 4249–4259.
Oktawila, D., Bagijo, H. E., & Tanudjaja, T. (2025). Kedudukan Lembaga Negara Dalam Makan Bergizi Gratis. *Jurnal Media Informatika*, *6*(3), 1595–1602.
POLLITT, E. (1989). Developmental Impact of Nutrition on Pregnancy, Infancy, and Childhood: Public Health Issues. *International Review of Research in Mental Retardation*, *15*, 33.
Prasetyo, T., Putra, R. A., Kurniawan, R., & Nurdin, R. F. (2025). The Impact of Free Nutritional Meal Program on Students' Physical Fitness and Mental Health: A Descriptive Study. *American Journal of Medical Education*, *1*(3), 48–56.
Purtle, J., Stadnick, N. A., Wynecoop, M., Bruns, E. J., Crane, M. E., & Aarons, G. (2023). A policy implementation study of earmarked taxes for mental health services: study protocol. *Implementation Science Communications*, *4*(1), 37.
Qomarrullah, R. (n.d.). *The Long-Term Impact Of The Free Nutritious Meal Program On Health And Educational Sustainability*.
Qomarrullah, R., Suratni, S., & Sawir, M. (2025). Dampak Jangka Panjang Program Makan Bergizi Gratis terhadap Kesehatan dan Keberlanjutan Pendidikan. *Indonesian Journal of Intellectual Publication*, *5*(2), 130–137.
Rahmayani, E. N., Salsabila, S., Yulian, D., Rosidin, U., & Handoko, H. (2025). Implementation of the Evaluation of the Free Nutritious Meal Program (MBG) at SMP X Blambangan Umpu. *TOFEDU: The Future of Education Journal*, *4*(9), 5674–5680.
Risnawati, E., Suriansyah, A., & Harsono, A. M. B. (2026). Implementasi Program Makan Bergizi Gratis dalam Peningkatan Efektivitas Proses Pembelajaran di Sekolah Dasar. *Jurnal Penelitian Ilmiah Multidisipliner*, *2*(04), 832–842.

Romadhon, K., Hidayat, N., Malahati, F., Rizki, A., & Fitriyati, I. (2023). Menggali pendidikan karakter siswa melalui kegiatan keagamaan di Madrasah Ibtidaiyah. *Literasi: Jurnal Ilmu Pendidikan*, *14*(2), 103–112.

Rosyadi, R. (2024). Peran Orang Tua Dalam Meningkatkan Motivasi Belajar Siswa. *An Najah (Jurnal Pendidikan Islam Dan Sosial Keagamaan)*, *3*(5), 377–386.

Safarudin, R., Zulfamanna, Z., Kustati, M., & Sepriyanti, N. (2023). Penelitian kualitatif. *Innovative: Journal Of Social Science Research*, *3*(2), 9680–9694.

Santoso, A., Melianawati, B. D., & Ayuningtyas, E. A. (2025). Governance Analysis Of The Implementation Of The Free Nutritious Meal Program. *Jurnal Manajemen Bisnis Dan Organisasi*, *4*(1), 240–270.

SB Kairupan, R. M. (2025). *ANALISIS KEBIJAKAN PUBLIK*. Penerbit Tahta Media. tahtamedia.co.id

Shah, M. U., & Guild, P. D. (2022). Stakeholder engagement strategy of technology firms: A review and applied view of stakeholder theory. *Technovation*, *114*, 102460.

Siregar, B. G. Z., Sari, L., & Taryono, T. (2023). Analisis Prioritas Pembangunan Manusia di Kabupaten Rokan Hulu. *Diklat Review: Jurnal Manajemen Pendidikan Dan Pelatihan*, *7*(1), 83–93.

Sun, L., Booth, A., & Sworn, K. (2024). Adaptability, Scalability and Sustainability (ASaS) of complex health interventions: a systematic review of theories, models and frameworks. *Implementation Science*, *19*(1), 52.

Susanto, D., & Jailani, M. S. (2023). Teknik pemeriksaan keabsahan data dalam penelitian ilmiah. *QOSIM: Jurnal Pendidikan Sosial & Humaniora*, *1*(1), 53–61.

Syakir, F., & Noviani, D. (2025). Membangun Generasi Emas 2045 Melalui Pola Konsumsi Makanan Bergizi. *Jurnal Pendidikan Berkelanjutan*, *6*(4).

Symons, C. W., Cinelli, B., James, T. C., & Groff, P. (1997). Bridging student health risks and academic achievement through comprehensive school health programs. *Journal of School Health*, *67*(6), 220–227.

Tanziha, I., Ekayanti, I., & Ahmad, A. (2025). The impact of a free nutritious meal program on elementary school students' concentration levels. *Action: Aceh Nutrition Journal*, *10*(3), 790–800.

Uyun, F. (2023). Penerapan salat dhuha dalam pembentukan karakteristik siswa kelas V Madrasah Ibtidaiyah Negeri 1 Malang: Tinjauan karakter moral Thomas Lickona. *Cendekia: Media Komunikasi Penelitian Dan Pengembangan Pendidikan Islam*, *15*(2), 400–415.

Van Meter, D. S., & Van Horn, C. E. (1975). The policy implementation process: A conceptual framework. *Administration & Society*, *6*(4), 445–488.

Warosari, Y. F. (2025). Implementation of Free Nutritious Food Provision (MBG) for Balanced Nutritional Intake and Early Childhood Cognitive Development at Raudhatul Athfal. *Jurnal Adzkiya*, *9*(2), 8–16.

Waruwu, M. (2024). Pendekatan penelitian kualitatif: Konsep, prosedur, kelebihan dan peran di bidang pendidikan. *Afeksi: Jurnal Penelitian Dan Evaluasi Pendidikan*, *5*(2), 198–211.

Widiastuti, I., Muhsam, J., & Cakranegara, P. A. (2021). Analisis Pentingnya Pembangunan Pendidikan Karakter Siswa Dalam Mengembangkan Kualitas Sumber Daya Manusia di SMP Muhammadiyah Surakarta. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, *7*(2), 255–262.

Widodo, N. (n.d.). *Program Perlindungan Anak Melalui Rumah Perlindungan Sosial Anak (RPSA) 2011*.

Widyatmoko, S., Harsono, A. M. B., & Suriansyah, A. (2026). Studi Kasus: Implementasi Program MBG di Sekolah Dasar. *Jurnal Penelitian Ilmiah Multidisipliner*, *2*(04), 582–590.

Wiranata, I. H., Yunita, A., & Sari, H. T. W. (2025). Program makan bergizi gratis: Strategi peningkatan gizi dan kualitas pendidikan di SDN 13 Cempaka Pekanbaru. *Prosiding SEMDIKJAR (Seminar Nasional Pendidikan Dan Pembelajaran)*, *8*, 2313–2323.

Worsley, T. (2020). *Nutrition promotion: theories and methods, systems and settings*. Routledge.

Yuniar, I., Nurmalasari, I., Maylani, F., & Warta, W. (2025). Manajemen Integratif Makanan Bergizi Gratis (MBG) dan Proses Belajar Mengajar (PBM) dalam Upaya Meningkatkan Mutu Pembelajaran Di Sekolah Dasar. *AL-MANAR: Jurnal Komunikasi Dan Pendidikan Islam*, *14*(2), 872–884.

Yuningsih, R., & Kurniasari, R. (2021). Pengaruh edukasi gizi melalui media bergambar dan permainan terhadap pengetahuan gizi seimbang pada anak sekolah dasar (suatu pendekatan studi literature review). *HEARTY: Jurnal Kesehatan Masyarakat*, *10*(1), 1–7.

Website/Blog

Bbc.com. (2025). *Bbc.com https://www.bbc.com/indonesia/articles/cgj119359q4o*. https://www.bbc.com/indonesia/articles/cgj119359q4o

CNN ndonesia. (2025). *CNN ndonesia : https://www.cnnindonesia.com/nasional/20250927081552-20-1278281/7-daerah-yang-alami-keracunan-mbg-versi-bgn*. https://www.cnnindonesia.com/nasional/20250927081552-20-1278281/7-daerah-yang-alami-keracunan-mbg-versi-bgn

Kompas.com. (2025). *KOMPAS.com. KOMPAS.com : https://lestari.kompas.com/read/2025/12/16/103500786/riset-celios-sebut-kasus-keracunan-mbg-bisa-capai-22.000-pada-2026-jika-tak.*

TIMES INDONESIA. (2025). *TIMES INDONESIA, https://timesindonesia.co.id/peristiwa-daerah/575793/kasus-keracunan-mbg-di-sman-2-kudus-sppg-purwosari-akui-kelalaian-dan-janjikan-tanggung-jawab*.