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Framing Free Nutritious Meals as a Human Capital Investment: An Analysis of Evidence-Based Policy Communication in Indonesia

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ABSTRACT

Indonesia's Free Nutritious Meals (Makan Bergizi Gratis, MBG) program aims to address persistent child malnutrition. However, competing narratives surrounding fiscal costs and food safety challenges complicate public communication about its potential benefits. This study aimed to develop an evidence-based policy communication framework that positioned MBG as an investment in human capital and identified strategies for maintaining public trust during food safety crises. The study employed a narrative literature review covering publications from 2016 to 2026, combined with deductive framing analysis. Evidence from academic literature and official program documents was synthesized using Entman's four framing functions: problem definition, causal interpretation, moral evaluation, and treatment recommendation. The proposed framing framework was compared with competing media narratives and evaluated through the lens of Situational Crisis Communication Theory (SCCT). The findings identified a strategic frame that characterized child malnutrition as a threat to human capital development, recognized poverty and unequal access to nutritious food as contributing factors, emphasized equitable and nonstigmatizing access to nutritious meals, and advocated multisectoral interventions linking school meal provision with nutritional outcomes, educational development, and local economic activity. Existing media analyses further indicated that food poisoning incidents could shift public attention from the program's long-term developmental benefits toward immediate concerns about food safety and implementation accountability. The study concluded that the credibility of the human capital investment frame depended on consistent food safety standards, effective program implementation, and timely, transparent, and empathetic crisis communication. Future research should empirically examine how the proposed framing strategies influence public perceptions, institutional trust, and support for the MBG program.

INTRODUCTION

Public policies are evaluated not only by their outcomes but also by how they are communicated and interpreted by the public. Indonesia's Free Nutritious Meals (Makan Bergizi Gratis, MBG) program, launched on January 6, 2025, illustrates this relationship. The program is administered by the National Nutrition Agency (Badan Gizi Nasional, BGN), which was established under Presidential Regulation No. 83 of 2024. As of September 30, 2026, the MBG program had reached approximately 57 million beneficiaries through 27,485 Nutrition Fulfillment Service Units (Satuan Pelayanan Pemenuhan Gizi, SPPG), with reported budget expenditures totaling IDR 153.19 trillion (Ministry of Finance of the Republic of Indonesia, 2026). The scale of its implementation has attracted considerable attention from the media, the public, and policy analysts.

The MBG program was introduced to address persistent nutritional challenges in Indonesia (Wibowo, 2026). The 2024 Indonesian Nutritional Status Survey (Survei Status Gizi Indonesia, SSGI) reported a national stunting prevalence of 19.8%, affecting approximately 4.48 million children under five years of age (Ministry of Health of the Republic of Indonesia, 2025). This prevalence remained above the 2029 target of 14.2% established in the National Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional, RPJMN). Socioeconomic disparities were also evident, with stunting prevalence reaching 29.8% among children in the poorest wealth quintile, compared with approximately 12% in the wealthiest quintile. Galasso and Wagstaff (2019) estimated that childhood stunting could reduce a country's per capita income by approximately 7%, highlighting its long-term economic implications.

However, the magnitude of a public health problem does not necessarily ensure public acceptance of the policies designed to address it. Previous communication studies have demonstrated that the MBG program has been represented through competing media frames. Juditha and Darmawan (2025) found that Detik.com emphasized planning and implementation challenges, whereas Kompas.com highlighted government initiatives to address nutritional problems. Their findings also indicated a reciprocal relationship between media framing and public sentiment expressed online. Similarly, Sari et al. (2026) reported that Metrotvnews.com initially framed MBG as a national investment initiative but subsequently shifted its coverage toward operational challenges following food poisoning incidents in September 2025.

These findings illustrated the contestation of policy frames within public discourse. On the one hand, MBG has been presented as a long-term investment in human capital development. On the other hand, competing narratives have emphasized its fiscal implications and potential food safety risks. Existing communication research on MBG has primarily examined how news media construct and communicate these competing interpretations. However, limited attention has been devoted to developing an evidence-based communication framework that policymakers and public institutions can use to explain the program's objectives, anticipated benefits, and implementation challenges. Addressing this gap requires examining how scientific evidence can inform policy framing without overlooking legitimate public concerns.

Accordingly, this study addressed three research questions: (1) How do framing theory and policy communication explain competing interpretations of the MBG program in public discourse? (2) How can empirical evidence be incorporated into a human capital investment frame using Entman's four framing functions? And (3) What risk communication strategies are necessary to maintain the credibility of this frame during food safety crises?

This study aimed to develop an evidence-based policy communication framework that positioned MBG as an investment in human capital while accounting for implementation risks and public accountability. Theoretically, the study extended the application of framing analysis beyond the examination of media content toward the development of evidence-based policy messages. Practically, it sought to provide recommendations for BGN, relevant government ministries, and public communication practitioners responsible for communicating the program's objectives, implementation, and outcomes.

Framing involves selecting and emphasizing particular aspects of perceived reality to shape how an issue is understood and interpreted. Entman (1993, as cited in Sari et al., 2026) identified four principal framing functions: defining problems, diagnosing causes, making moral judgments, and suggesting remedies. These functions have been applied in previous studies examining media representations of Indonesia's MBG program (Sari et al., 2026).

Cacciatore et al. (2016) cautioned against the overly broad application of framing concepts and distinguished between equivalence framing and emphasis framing. Equivalence framing involves presenting logically equivalent information in different ways, whereas

emphasis framing involves highlighting selected aspects of an issue to influence its interpretation. This study adopted the emphasis-framing perspective, focusing on how relevant scientific evidence could be selected, organized, and communicated to explain the MBG program's objectives and implications without altering the underlying facts.

Scientific evidence does not necessarily communicate its implications effectively without appropriate interpretation and contextualization. Cairney and Kwiatkowski (2017) explained that policymakers and members of the public process information under conditions of bounded rationality, relying partly on cognitive shortcuts, emotions, and preexisting beliefs. Consequently, effective evidence-based policy communication requires integrating scientific findings with narratives that are accessible and relevant to different audiences. In the context of MBG, evidence concerning childhood stunting, nutritional interventions, and long-term economic outcomes must be communicated in ways that address the concerns and informational needs of parents, teachers, business owners, and taxpayers.

Situational Crisis Communication Theory (SCCT), developed by Coombs (2019), provides a framework for selecting organizational crisis responses according to the degree of responsibility attributed to an organization. SCCT distinguishes among three crisis clusters: victim, accidental, and preventable. Preventable crises generally generate the highest levels of attributed organizational responsibility and therefore require more accommodative response strategies, including apologies, compensation when appropriate, and corrective action. This framework is particularly relevant to food safety incidents associated with MBG implementation because public perceptions of organizational responsibility may influence trust in the program.

In public health communication, Seeger et al. (2018) developed an emergency risk communication evaluation model informed by the principles of Crisis and Emergency Risk Communication (CERC). These principles emphasize timely and accurate information, credibility, empathy, actionable guidance, and respect for affected communities. Together, SCCT and CERC provide complementary perspectives for examining how public institutions should communicate during food safety incidents. Their application to MBG is particularly important because such incidents may undermine public confidence in program implementation and shift attention away from its anticipated long-term benefits.

A credible policy communication frame must be grounded in substantive scientific evidence. Human capital theory conceptualizes investments in nutrition, health, and education as contributions to individuals' future capabilities, productivity, and economic opportunities. Bundy et al. (2018) emphasized that school age and adolescence represent important periods for human capital development following the first 1,000 days of life. Similarly, Bundy et al. (2017) highlighted the potential long-term benefits of investments in health and nutrition among children and adolescents aged 5–19 years.

School feeding programs have been implemented across numerous countries, reaching approximately 418 million children worldwide in 2022 (World Food Programme, 2022). Verguet et al. (2020) identified potential benefits across four interconnected sectors: health, education, social protection, and local economic development. Bundy et al. (2018) further estimated that investments in school health and nutrition interventions could generate economic returns of up to nine dollars for every dollar invested. These findings provided a broader empirical foundation for examining school meal programs as potential human capital investments, although their estimated benefits should not be interpreted as guaranteed outcomes of Indonesia's MBG program.

Existing research on MBG can be broadly categorized into two streams. The first examines the program's substantive socioeconomic and developmental implications. Basit and Ramadani (2025) identified potential multiplier effects associated with agricultural production, micro, small, and medium-sized enterprises (MSMEs), and household purchasing power.

Agustini and Mulyani (2025) examined MBG as an educational and nutritional intervention with the potential to contribute to human resource development. The second stream focuses on communication research, particularly media framing and public representations of the program (Juditha & Darmawan, 2025; Sari et al., 2026). This study sought to connect these two research streams by synthesizing evidence on the program's potential developmental benefits and implementation challenges into a structured, evidence-based policy communication framework.

METHOD

This study employed a qualitative approach within a constructivist paradigm, combining a narrative literature review with deductive framing analysis. Entman's four framing functions were used as an analytical framework to synthesize scientific evidence and develop an evidence-based communication frame for Indonesia's Free Nutritious Meals (Makan Bergizi Gratis, MBG) program.

Relevant literature was identified through Google Scholar, PubMed, ScienceDirect, and GARUDA using the keywords school feeding, school meals, Indonesian stunting, free nutritious meals, framing, and crisis communication. The inclusion criteria comprised publications from 2016 to 2026, including peer-reviewed journal articles, academic books, and credible reports from international organizations addressing school meal programs, policy communication, or MBG framing. Additional program data were obtained from official publications issued by Indonesia's Ministry of Health, Ministry of Finance, and National Nutrition Agency (Badan Gizi Nasional, BGN).

Data analysis was conducted in three stages. First, relevant findings were coded according to Entman's four framing functions: problem definition, causal interpretation, moral evaluation, and treatment recommendation. Second, the coded findings were synthesized into key messages representing each framing function. Third, the resulting communication frame was compared with competing media frames and examined using Situational Crisis Communication Theory (SCCT) to identify appropriate communication strategies during food safety crises. The study was limited to literature-based analysis and did not empirically assess the proposed frame's effects on audience perceptions or public trust.

RESULTS AND DISCUSSION

Based on the results of the analysis, it is shown that the empirical evidence can be compiled into a frame of "MBG as an investment of human capital" that is complete on the four functions of Entman. Table 1 summarizes the main evidence that has become the encoding material itself.

Table 1. Summary of the Main Empirical Evidence of School Meal Programs

Study	Country/scope	Design	Key findings
Wang et al. (2021)	Low- and middle-income countries	Systematic review and meta-analysis	School meal programs have a positive impact on educational outcomes and several anthropometric indicators
Cohen et al. (2021)	The United States and other countries	Systematic review	Universal school meals are associated with higher participation, better dietary quality, and household food security
Gelli et al. (2019)	Ghana	Cluster-controlled	Height by age increases in girls and children from poor households

Study	Country/scope	Design	Key findings
		randomized testing	
Aurino et al. (2023)	Ghana	Cluster-controlled randomized testing	Test scores are increasing, with the greatest impact on girls and poor children
Chakraborty and Jayaraman (2019)	India	Quasi-experiment	Lunch program display improves reading and math access
Gordanier et al. (2020); Ruffini (2022)	United States	Quasi-experiment	Universal free meals increase students' math scores
Holford and Rabe (2022)	English	Quasi-experiment	Universal free meals lower the prevalence of childhood obesity
Lundborg et al. (2022)	Sweden	Historical natural experiments	School lunch exposure during elementary school increases lifetime income by about 3 percent
Bütikofer et al. (2018)	Norway	Historical natural experiments	School breakfast programs increase education and income as adults

Problem Definition: Malnutrition as a Human Capital Problem

The first function of the frame is to determine what the problem is. The proposed frame defines malnutrition as not just a health problem, but a problem of national competitiveness. This definition is supported by stunting data of 19.8 percent and an estimated aggregate income loss of around 7 percent (Galasso & Wagstaff, 2019). Victora et al. (2021) also called the handling of malnutrition in developing countries an unfinished agenda.

This definition is certainly important in terms of the communicative pattern that is formed. If the problem is only framed as a matter of how to go through health, the public certainly tends to assess MBG from the perspective of only a cost. But on the contrary, when the problem has been framed as a threat to the quality of the existence of the generation and the target of the Golden Indonesia 2045, the MBG program budget can be understood as an investment.

Causal Diagnosis: Poverty and Food Access

The second function is to explain the causes of the problem. Beal et al. (2018) identified household poverty, poor maternal nutrition, inadequate feeding practices, and poor sanitation as determinants of stunting in Indonesia. The disparity in stunting prevalence between the poorest (29.8 percent) and richest (about 12 percent) quintiles reinforces the diagnosis that economic access to nutritious food is the root of the problem.

This diagnosis has directed the goal of responsibility to the condition structurally, not just to the failure of the individual or the parent. It is from the point of view of this communication that structural diagnosis opens up space for state intervention. This diagnosis has also avoided the stigmatization that exists against poor families.

Moral Evaluation: Justice for Future Generations

The third function is to provide moral judgment. The proposed frame highlights the value of justice, i.e. that every child deserves equal growth opportunities. The evidence supports this

value because the benefits of the school meal program are felt most by vulnerable groups. Gelli et al. (2019) and Aurino et al. (2023) found the greatest impact on girls and children from poor families in Ghana. Lundborg et al. (2022) also found the impact of having the greatest lifetime income on children from poor families in Sweden.

This coverage of universal MBG can also be framed in terms of morality as the goal of service without stigma. Gordanier et al. (2020) and Ruffini (2022) show that this free meal in the United States increases as the number of mathematical scores in students. The universal approach removes from the label of "poor child" that is often attached to the targeted program. Thus, this moral evaluation has answered the criticism of efficiency with the argument of dignity and inclusion.

Resolution Recommendations: MBG as a Multisectoral Intervention

The fourth function is to offer a solution and evidence of its effectiveness. Of course, with evidence showing that the existence of MBG works through four pathways. In the existence of the nutrition pathway, the meta-analysis of Wang et al. (2021) found a positive impact on the existence of anthropometric indicators. Holford and Rabe (2022) and Cohen et al. (2021) showed that universal school meals do not worsen obesity, but can reduce it. In the education pathway, Chakraborty and Jayaraman (2019) found an increase in achievement in reading and mathematics in the *Midday Meal* program in India.

In this economic path is the long-term, Lundborg et al. (2022) and Bütikofer et al. (2018) prove that there is an impact of school meals on the amount of income as adults in Sweden and Norway. On the local economic turnaround path, Basit and Ramadani (2025) found that there is a multiplier effect of MBG for farmers and MSMEs that is impacted. In the first year, MBG involved around 780 thousand workers and volunteers in more than 19 thousand SPPGs. Another advantage of MBG is that it targets pregnant women, lactating mothers, and toddlers so that they can reach from the first 1,000 days of life window at the same time at school age. Table 2 summarizes the proposed frame.

Table 2. The "MBG as a Human Capital Investment" Frame Based on the Four Framing Functions of Entman

Framing function	Key messages	Supporting evidence
Problem definition	Malnutrition threatens the quality of generation and the competitiveness of the nation	stunting 19.8 percent; income loss of around 7 percent (Galasso & Wagstaff, 2019)
Causal diagnosis	The root of the problem is poverty and access to nutritious food, not individual fault	The quintile gap is 29.8 vs 12 percent; Beal et al. (2018)
Moral evaluation	Every child has the right to grow up healthy without stigma	The greatest impact on poor children and girls (Gelli et al., 2019; Lundborg et al., 2022)
Completion recommendations	Nutritious eating is an investment with a return on nutrition, education, income, and the local economy	Wang et al. (2021); Chakraborty and Jayaraman (2019); Bundy et al. (2018); Basit and Ramadani (2025)

Frame Contestation in the Media

The investment frame is not present in a vacuum. The media and netizens also develop counter frames, especially the budget efficiency frame and the food safety frame. Juditha and Darmawan (2025) show that media framing and netizens' sentiment influence each other. They recommend that the government increase transparency and public inaction. Sari et al. (2026)

show that when the poisoning crisis arises, even the media that was originally positive shifts to the frame of technical incidents.

This finding has two implications. First, the investment frame is only credible if it is only supported by real performance in the field. Second, the counter frame cannot only be faced with a denial of the existing problem. As emphasized by Cairney and Kwiatkowski (2017), policy communicators need to be able to acknowledge their concerns in an audience and answer them with evidence and action.

COMMUNICATION OF RISKS AND RECOMMENDATIONS

The Food Security Crisis in the SCCT Perspective

The biggest test for the investment frame is a case of food poisoning that has occurred. BGN data recorded 5,914 victims from 70 incident sites in the period from January to September 25, 2025 (Bisnis.com, 2025). Until November 2025, MBG was recorded to account for around 48 percent of the national food poisoning incidents, with a cumulative production of around 1.8 billion servings (Katadata, 2025). The Indonesian Education Monitoring Network (JPPI) estimates that the total number of victims from 2025 to August 2026 will reach 40,759 people in 36 provinces (NU Online, 2026).

In the framework of SCCT, poisoning due to hygiene negligence is a crisis cluster that can be prevented. If the public sees it, it attaches a high responsibility to the existence of program managers, so the appropriate strategy is to rebuild trust (Coombs, 2019). Some of the government's responses are already in line with this strategy. In September 2025, the Deputy Head of BGN apologized and stated that the cost of treating victims was borne by the government. In September 2026, as many as 1,276 SPPGs that do not have a Sanitation Hygiene Suitability Certificate (SLHS) will be temporarily closed as a corrective measure.

However, there are weaknesses in terms of the principles of credibility and consistency of messages (Seeger et al., 2018). In September 2025, BGN, the Ministry of Health, and BPOM reported different numbers of victims. This kind of data difference gives room for a counter frame that the government is not transparent. In crisis communication, data inconsistencies can damage trust more than the crisis itself.

Communication Strategy Recommendations

Based on the above analysis, this article has recommended the following communication strategies:

1. Frame consistency. This consistent "human capital investment" frame can be used in a government message by highlighting evidence on all four framing functions (Table 2).
2. One source of data. Build with an integrated incident dashboard that brings together BGN, Ministry of Health, and BPOM data and is certainly publicly accessible.
3. SCCT-based crisis response. When an incident occurs, prioritize empathy, apology, compensation, and a quick explanation of corrective action, not defensive clarification.
4. Beneficiary narrative. From completing a statistical data with real stories of students, parents, farmers, and MSME actors so that the evidence is easier for the public to understand.
5. Two-way communication. Involve schools, parents' committees, and local media as partners in supervision, in line with the recommendations of Juditha and Darmawan (2025).

Good communication cannot replace good performance. Therefore, communication strategies need to be accompanied by substantive improvements. These improvements include the implementation of SLHS as a condition before SPPGs operate, the application of HACCP principles, the involvement of nutritionists in each existing SPPG, and the public publication of financial and performance reports. The government can also be advised to partner with a university to evaluate the impact of MBG in a quasi-experimental manner. Of course, the results of the evaluation will be the most credible communication material.

As a form of academic balance, it should be noted that in a number of parties, of course, there can still be doubts about the design of MBG. First, some experts have argued that stunting is most effective in preventing it in the first 1,000 days of life. Second, universal coverage is considered less efficient than targeting poor households. Third, the National Economic Council's analysis concludes that the impact of MBG on short-term economic growth is not large. Fourth, the high number of poisoning victims raises the question of whether the expansion of the program is too fast compared to the readiness of a supervision. From a communication perspective, of course, the existence of these criticisms is not a threat that must be silenced. Criticism is necessary, it is an input that needs to be answered openly so that the legitimacy of the policy is maintained.

CONCLUSION

This study demonstrated how empirical evidence could be synthesized into a coherent communication framework positioning Indonesia's Free Nutritious Meals (Makan Bergizi Gratis, MBG) program as an investment in human capital, using Entman's four framing functions. The proposed framework defined malnutrition as a threat to human capital development and the well-being of future generations, identified poverty and unequal access to nutritious food as contributing factors, emphasized social equity and equitable access to nutritional assistance without stigmatization, and recommended multisectoral interventions to support nutritional outcomes, educational development, long-term economic productivity, and local economic activity.

However, the availability of scientific evidence alone did not guarantee public acceptance. Previous media framing studies indicated that food poisoning incidents could shift public attention from the program's anticipated long-term benefits toward immediate concerns about food safety and institutional accountability. Therefore, maintaining the credibility and public legitimacy of the MBG program required effective food safety management alongside consistent, transparent, timely, and empathetic risk communication. Integrating these elements could strengthen public trust while supporting the program's long-term human capital development objectives.

Future research should empirically evaluate the proposed human capital investment frame through framing experiments or survey-based studies to examine its effects on public perceptions, institutional trust, and support for the MBG program.

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AUTHOR'S CONTRIBUTION

All authors contribute to the preparation of research concepts, methodology development, data collection and analysis, manuscript preparation, and manuscript revision. All authors have read and approved the final version of the manuscript.

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