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| Research Article |

Managing School Feeding: Comparing Indonesia's Free Meal Program and Japan's Shokuiku System

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Abstract: School feeding is a widely adopted strategy for improving the nutritional status, health, and long-term human-capital quality of children from an early age. Through the Free Nutritious Meal (Makan Bergizi Gratis, MBG) program launched in January 2025, Indonesia is building a national policy to meet the nutritional needs of learners, while Japan has long operated its Kyushoku school-lunch system integrated with Shokuiku as food and nutrition education. This study analyses and compares the implementation of the two programs and identifies best practices that can be adapted to strengthen Indonesian school-nutrition policy, with particular attention to the educational-management dimension. The research uses a qualitative approach and a comparative design based on library research. Data were drawn from scientific articles, books, government policy documents, and international agency reports, and were examined through content analysis, qualitative description, and comparative analysis, reinforced by source triangulation. The findings show that the two programs share the goal of improving learners' nutritional status and supporting human development. However, Kyushoku rests on a more mature system supported by a strong legal basis, nutrition education embedded in the curriculum, licensed school dietitians, high food-safety standards, and continuous evaluation. MBG offers broad coverage and the potential to empower local economies through regional food sourcing, but it still faces challenges in governance, distribution, financing, food safety, and monitoring. Read through the functions of planning, organizing, actuating, and controlling, Japan's experience offers transferable lessons that must be adapted to Indonesia's geographic, social, cultural, and institutional conditions.

Keywords: free nutritious meal program, Kyushoku, Shokuiku, educational management, school-nutrition policy

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Introduction

Child nutrition remains one of the central challenges in health development and in raising the quality of human resources in Indonesia. Sound nutritional status shapes not only physical growth but also cognitive development, learning capacity, and adult productivity. For this reason, the government continues to develop policies that address nutrition through more comprehensive and sustainable approaches. One strategy that has been adopted in many settings is a school-based intervention that provides nutritious food as part of broader efforts to improve public health (Iqhrammullah et al., 2025).

This approach is regarded as effective because schools reach children on a regular basis, allowing nutritional needs to be met in a more structured way. A large body of research indicates that school food programs improve the quality of learners' dietary intake while reducing the risk of undernutrition during the growth period (Cohen et al., 2021). Universal school meals, in particular, have been associated with higher participation, better attendance, and improved diet quality across diverse contexts (Cohen et al., 2021; de Amorim et al., 2022).

Within this context, the Government of Indonesia introduced the Free Nutritious Meal (Makan Bergizi Gratis, MBG) program as a strategic policy to widen access to nutritious food for learners and other priority groups. Established through the National Nutrition Agency (Badan Gizi Nasional, BGN) and launched on 6 January 2025, the program reflects a commitment to a more equitable and sustainable system of nutrition provision (Abadi et al., 2025). Beyond supplying meals, MBG is expected to function as an instrument for improving child health, supporting learning, and strengthening human-capital formation from an early age (Hidayah et al., 2025).

International research reinforces this view. School food programs that are combined with nutrition education produce positive effects on eating patterns, nutrition knowledge, and the health status of learners (Ueda, 2019). Such findings suggest that investment in child nutrition is a long-term investment in national development, since the quality of future human resources is strongly influenced by health conditions during growth (Desmond et al., 2021). Evidence from low- and middle-income settings similarly connects early nutrition and cognition to later schooling and earnings, underscoring the economic logic of school-based nutrition (Desmond et al., 2021).

The urgency of nutrition programs becomes clearer when linked to the persistent risk of stunting, which remains a major public-health concern. Stunting is a condition of growth failure caused by prolonged chronic undernutrition. Its effects are visible not only in below-standard height for age but also in brain development, thinking capacity, learning achievement, and later economic productivity. The prevalence of stunting in Indonesia, although declining, has remained above the World Health Organization threshold in recent years, and its determinants operate at individual, household, and contextual levels (Mulyaningsih et al., 2021; Muharram et al., 2025). Many countries therefore treat stunting prevention as a core element of

building human quality. Japan, for example, developed a food-education policy (Shokuiku) that integrates the provision of nutritious meals with learning about healthy living from an early age, a policy shown to support physical health, cognitive development, and durable healthy-eating habits (Yotova, 2016).

The school years are a decisive phase in forming eating habits and healthy lifestyles. During this period, children undergo rapid physical growth alongside the development of thinking and social skills. School-based nutrition policy therefore carries a role that is far broader than the mere supply of food. Japan is one of the countries that succeeded in developing such a system through the implementation of Shokuiku, supported by strong regulation, a sustained national program, and periodic evaluation under the Basic Act on Shokuiku and the Basic Program for Shokuiku Promotion (Kurotani et al., 2020).

Japan's experience demonstrates that the success of a school food program is determined not only by the quality of the menu, but also by the integration of nutrition education, the involvement of schools and families, and coordinated government action in shaping healthy behaviour (Maruyama & Kurokawa, 2018). Research also cautions that school-nutrition programs must be evaluated periodically so that they continue to respond to changing social and economic conditions and to global shocks such as the COVID-19 pandemic (Maeta et al., 2023). The capacity of government to align policy with the needs and characteristics of its society is thus a key determinant of success.

Although the benefits of school feeding are well established, the evidence on the effectiveness of MBG within Indonesia's specific regulatory and institutional context remains limited, and early implementation has surfaced problems of food safety, logistics, and coordination (Bundy et al., 2025). The rollout of MBG marks an important step in the transformation of food and nutrition policy in Indonesia. The program is designed with attention to financing, target coverage, distribution mechanisms, and implementation effectiveness across regions (Abadi et al., 2025). At the same time, it faces challenges in food-safety oversight, equitable distribution, financing sustainability, and its effect on regional economies. The success of MBG will therefore be judged not only by the number of beneficiaries but also by its real impact on nutritional status and on the quality of children's education (Iqhrammullah et al., 2025).

A dimension that has received comparatively little attention in the Indonesian discussion is educational management. A national school-feeding program is, in practical terms, a large managed system that must be planned, organized, implemented, and controlled within the education sector. The classical management functions of planning, organizing, actuating, and controlling provide a useful lens for understanding why some programs deliver consistent quality while others do not (Pratama, 2020). Studies of school leadership and school-based management in Indonesia repeatedly show that consistent planning, clear division of roles, systematic staff development, and periodic monitoring are decisive for program quality (Gaol,

2023; Juharyanto et al., 2023). Reading MBG and Kyushoku through this managerial lens helps to move the comparison beyond menus and budgets toward the governance capacity that sustains a program over time.

Based on this discussion, Indonesia is working to strengthen its nutrition system through MBG as part of a human-resource development strategy, while Japan has already developed a school-lunch system (Kyushoku) integrated with food education (Shokuiku) that has produced positive results in shaping a healthy eating culture. The difference between the two experiences is worth examining because it illustrates the range of policy approaches available for improving the nutrition of school-age children. By conducting a comparative study of MBG in Indonesia and the Kyushoku system in Japan, and by framing that comparison through educational management, this article seeks a deeper understanding of best practices, implementation challenges, and opportunities for developing a more effective school-nutrition policy that supports the improvement of human-resource quality in Indonesia. The article is organized into an account of the method, a presentation of results in the form of comparative and evaluative matrices, a discussion that interprets the findings through the functions of educational management, and a concluding synthesis with implications for further research.

Method

This study uses a qualitative approach with a comparative design to analyse and compare the Free Nutritious Meal (MBG) program in Indonesia with the Kyushoku system in Japan. The approach was chosen because the aim is not to test statistical relationships but to reach an in-depth understanding of how the two policies are designed, implemented, and evaluated within different social, cultural, and governmental contexts. Through comparison, the study identifies similarities, differences, strengths, and implementation challenges so that lessons relevant to Indonesian school-nutrition policy can be drawn. Comparative work of this kind is widely used in studies of public policy and school nutrition because it yields a comprehensive picture of policy practice across countries (Yustiani et al., 2024; Serena et al., 2024). Comparative designs are also established in educational research, where contrasting outcomes across conditions clarifies which factors drive performance (Zh et al., 2025).

The data are secondary and were collected through library research. Sources include scientific articles, books, government documents, regulations, reports from international organizations, and other publications that discuss the MBG program in Indonesia as well as Kyushoku and Shokuiku in Japan. The use of varied source types was intended to produce a complete view of school-nutrition policy, from planning and financing through implementation and evaluation. Earlier studies on nutrition education, food safety, and the experience of various countries in developing school food programs were also used to enrich the analysis and to provide a broader perspective on the findings (Pipitcahyani et al., 2024; Bardosono & Pansawira, 2021).

To keep the evidence current, source selection prioritized recency, with journal articles drawn mainly from the last five years and foundational books from the last decade, while a small number of seminal works were retained because of their conceptual importance. Selection also weighed the credibility and indexing of sources, giving preference to peer-reviewed and internationally indexed publications alongside authoritative national documents. This screening supports the reliability and validity of the comparison by ensuring that the descriptions of each program rest on verifiable and up-to-date material rather than on anecdote.

Data analysis proceeded through three main stages, namely content analysis, qualitative descriptive analysis, and comparative analysis. All collected documents were first screened for relevance to the research focus and then analysed to identify important themes such as legal basis, governance, financing mechanisms, program targeting, food provision, nutrition education, food safety, and the evaluation systems applied in each country. The information was then arranged in the form of comparison matrices so that the similarities and differences between MBG and Kyushoku could be mapped systematically. The results of the analysis were interpreted descriptively to explain the factors influencing successful implementation and to identify best practices with potential for adaptation in developing Indonesian school-nutrition policy (Nurjani & Novianti, 2023).

Interpretation was organized through an educational-management framework built on the functions of planning, organizing, actuating, and controlling. Each thematic finding was read against these functions, which made it possible to locate precisely where the two systems diverge, for example in the planning of curricular nutrition education, the organizing of professional dietitian roles, the actuating of daily meals as a learning activity, and the controlling of food safety and program outcomes (Pratama, 2020; Kaiseroglou et al., 2025). This managerial reading connects the nutritional content of the programs to the governance capacity that determines whether quality can be sustained.

To strengthen the credibility of the results, source triangulation was carried out by comparing information obtained from scientific articles, policy documents, and official reports so that the resulting interpretation would be more objective and consistent. All data derive from published sources, so the study does not involve respondents or field data collection. This reliance on secondary data means that the findings emphasize the interpretation of policy rather than the empirical measurement of impact. In addition, differences in social, cultural, economic, and governmental conditions between Indonesia and Japan are factors that must be considered when adapting the findings. The study is therefore intended to contribute considerations for refining the MBG program through the selective application of suitable practices from the Kyushoku system, without neglecting the characteristics and needs of Indonesian society. Figure 1 summarizes the overall research design.

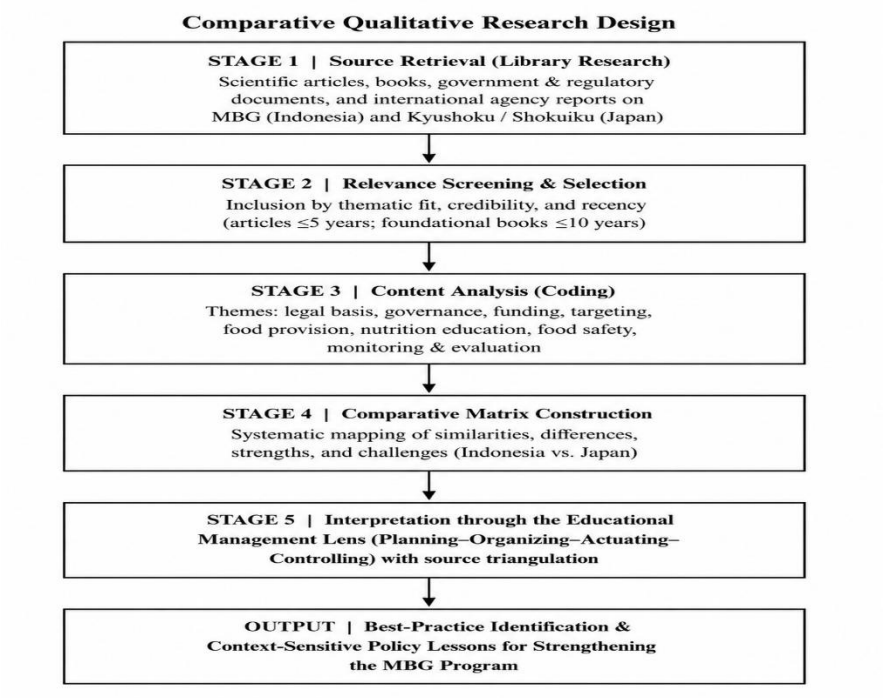


Figure 1. Comparative qualitative research design, from source retrieval to context-sensitive policy lessons.

Results

Overview of the MBG Program in Indonesia

The Free Nutritious Meal (MBG) program is a strategic policy developed by the Government of Indonesia to improve the nutritional quality of the population, particularly children of school age. The program emerged as a response to the still-high burden of nutritional problems, such as undernutrition and stunting, that can impede physical growth, cognitive development, and future human-resource quality (Muharram et al., 2025). By providing nutritious meals free of charge in the school environment, MBG is expected to help guarantee that the nutritional needs of learners are met while creating more favourable conditions for learning. Several early analyses note, however, that in its initial phase the program still requires strengthening in regulation, clarity of policy objectives, and evaluation systems so that implementation can be more effective and sustainable (Bundy et al., 2025). The success of MBG also depends not only on the provision of nutritious food but on the integration of nutrition education capable of forming healthy eating habits from an early age (Solihin et al., 2024).

The primary target of MBG is learners across various levels of education throughout Indonesia. Over time, coverage has also been directed toward other vulnerable groups, such as pregnant and breastfeeding women, as part of a national strategy to improve the nutritional status of the population as a whole. The program is designed to reach tens of millions of beneficiaries with substantial government financing (Abadi et al., 2025).

On the provision side, the menus are designed to meet part of the daily nutritional needs of learners through balanced food composition suited to children's energy requirements. Many studies emphasize that menu design should attend not only to nutrient content but also to the use of local foods and the cultural characteristics of the community. This approach is judged to raise learners' acceptance of the food provided while supporting regional food security (Machfudz & Hidayat, 2022; Zafira & Farapti, 2020).

In terms of implementation, MBG is backed by a sizeable government financing commitment as a form of long-term investment in human-resource development. The scale of the budget allocation indicates that the government places child nutrition among its national development priorities. Even so, several studies caution that success is determined not by the size of the budget alone but by the effectiveness of management, the transparency of fund use, and continuous cost-benefit evaluation (Hidayah et al., 2025).

A further and equally important challenge is the distribution of food to learners. Given the very broad coverage, distribution operates through Nutrition Service Units (*Satuan Pelayanan Pemenuhan Gizi*, SPPG) responsible for producing and delivering meals to schools. This system faces challenges in supply-chain management, food safety, infrastructure availability, and quality oversight so that the quality and safety of food are preserved in every region. Effective coordination among institutions, including the role of the National Nutrition Agency and related ministries, is a decisive factor for successful national implementation (Muharram et al., 2025).

Compared with the *Kyushoku* system in Japan, MBG is still at an early stage of development and therefore carries a number of challenges that require refinement. One of the most prominent differences is the presence of a legal framework. The *Kyushoku* system rests on strong regulation through the Basic Act on Shokuiku and the Basic Program for Shokuiku Promotion, so that its implementation has a clear policy direction, division of roles, and evaluation mechanism. MBG, by contrast, still needs stronger regulation and oversight so that implementation is more consistent across regions (Abadi et al., 2025). Japan's experience further shows that success depends not only on providing nutritious food but on integrating nutrition education into learning, involving families and communities, and sustaining social and behaviour change communication (Solihin et al., 2024). The experience of *Kyushoku* can therefore serve as an important reference for Indonesia in refining MBG, particularly through stronger regulation, improved nutrition education, better management of food safety, and continuous evaluation.

Overview of the Kyushoku Program in Japan

The *Kyushoku* program is an important component of Japan's education system that functions not merely as a lunch-provision scheme but as part of a food-education policy (*Shokuiku*). Unlike many school food programs elsewhere that focus mainly on meeting nutritional needs, *Kyushoku* was developed as a system that integrates health, education, culture, and character formation within one interconnected policy. Its

implementation is supported by the Basic Act on Shokuiku, enacted in 2005, and by the Basic Program for Shokuiku Promotion as the guideline for national implementation. Within this framework the government sets clear targets, conducts periodic evaluation, and involves various ministries and local governments. Since 2016, the Ministry of Agriculture, Forestry and Fisheries has actively coordinated the promotion of *Shokuiku*, allowing implementation to run in an integrated manner from the national level down to the prefectures (Kurotani et al., 2020). Some studies caution that the development of this policy is shaped by Japan's social, cultural, and political conditions, so that not every element can be applied directly elsewhere without adaptation to the local context (Yotova, 2016).

A central characteristic of *Kyushoku* is a planned system of food provision managed through school kitchens or central production centres that work with schools. Each menu is designed according to the nutritional needs of learners, taking into account the balance of energy, protein, vitamins, and minerals by age group. Yet menu design does not stop at meeting nutritional needs. The food served is also used as a medium of learning so that learners come to know the diversity of foods, understand the importance of balanced eating, and value the food they consume. Nutrition education thus becomes an inseparable part of the school meal (Kaneda & Yamamoto, 2015).

In its development, menu design has also come to favour the use of local foods, the preservation of regional culinary culture, and efforts to reduce food waste as an application of sustainability principles. This approach shows that *Kyushoku* is oriented not only toward health but also toward social, cultural, and environmental considerations in the delivery of the program (Maruyama & Kurokawa, 2018).

The success of *Kyushoku* is also supported by the role of professionals, particularly licensed school dietitians, who are responsible for designing menus, ensuring the nutritional quality of meals, and educating learners about healthy eating habits. This role means that nutrition education takes place not only in the classroom but also directly through the daily experience of eating at school. Shared meals, moreover, become an important part of learning, since students are guided to value food, maintain cleanliness, share responsibility, and build discipline and cooperation. Mealtime is therefore not seen only as the satisfaction of a biological need but as a means of character formation and the development of social skills (Maeta et al., 2023). Recent studies further show that food-education activities carried out on-site can improve adolescents' interest in healthy eating and their eating behaviour over time (Maeta et al., 2023; Ng et al., 2022).

The successful implementation of *Kyushoku* is inseparable from the synergy of many parties, from the central government and local governments to schools, teachers, dietitians, parents, and the wider community. This collaboration allows food provision, food-safety oversight, nutrition education, and program evaluation to run in an integrated way, so that service quality can be maintained over time (Kurotani et al., 2020). Studies also show that the *Kyushoku* system continues to be refined to adjust

to social change, shifts in consumption patterns, and global health challenges such as the COVID-19 pandemic. Although it rests on a strong legal and institutional foundation, Japan's experience shows that the success of a school food program depends not only on regulation but also on the commitment of all stakeholders to building a healthy eating culture from an early age. For this reason, *Kyushoku* is often cited as a best practice because it integrates nutritious food provision, nutrition education, character formation, and community involvement within one sustainable system, offering a valuable reference for Indonesia in developing MBG.

Comparative Analysis of Indonesia and Japan

The comparison of the two programs across the main dimensions of policy and management is summarized in Table 1. The table maps objectives, targeting, provision systems, financing, nutrition education, oversight, legal basis, and stakeholder involvement, followed by a comparative note for each dimension.

Table 1: Comparison of the MBG Program (Indonesia) and the Kyushoku/Shokuiku System (Japan)

Aspect	Indonesia (MBG)	Japan (Kyushoku / Shokuiku)	Comparative note
Program objective	Focuses on meeting learners' nutritional needs, reducing stunting, and supporting human-resource development through free nutritious meals.	Aims to improve nutritional status while forming healthy eating habits through nutrition education (Shokuiku), supporting physical, mental, and character development.	Both target human-capital quality through better nutrition; Japan places integrated food education as a primary aim, while MBG remains more oriented to nutrient provision.
Program target	Learners across education levels, extended to pregnant and breastfeeding women and toddlers within the national stunting-reduction strategy.	All primary and lower-secondary students as part of the national education system.	MBG has broader coverage linked to public health; Kyushoku is more specific to the school setting.
Provision system	Nutrition Service Units (SPPG) with centralized and regional production and distribution; main challenges lie in logistics, food safety, and equity of distribution.	Meals produced through school or central kitchens under strict quality standards, integrated with school activity.	Japan's provision system is more mature after decades of development; Indonesia is strengthening logistics governance and food safety.

Aspect	Indonesia (MBG)	Japan (Kyushoku / Shokuiku)	Comparative note
Financing	Sourced from the state budget with central support and regional coordination; still requires evaluation of efficiency and fiscal sustainability.	Funded through a combination of central and local government, with partial parental contribution under a clear legal basis.	Both rely on government support; Japan's funding is more stable because it rests on established regulation.
Nutrition education	Beginning to be developed as a complement to MBG; not yet fully integrated into the school curriculum.	Nutrition education (Shokuiku) is a compulsory part of the curriculum, covering nutrition, food safety, food culture, and sustainability.	Nutrition education is Japan's principal strength; Indonesia has a large opportunity to integrate it systematically into MBG.
Oversight	Carried out by the National Nutrition Agency with related ministries through cross-sector coordination, including quality and food-safety supervision.	Conducted in tiers by central government, prefectures, schools, and dietitians, with periodic evaluation under the Basic Program for Shokuiku Promotion.	Japan has more structured monitoring with clear indicators; Indonesia is still strengthening its national oversight and evaluation mechanisms.
Legal basis	Still strengthening regulation through various national policies on MBG and food security.	Strong legal basis through the Basic Act on Shokuiku (2005) and the Basic Program for Shokuiku Promotion.	The most fundamental difference lies in regulatory strength; Japan has a comprehensive framework while Indonesia is still refining MBG regulation.
Stakeholder involvement	Central and local government, BGN, schools, food providers, and communities.	Ministries, local governments, schools, dietitians, teachers, parents, local farmers, and communities.	Japan shows stronger multi-actor collaboration, so nutrition education is shared among school, family, and community.

Source: author's synthesis of Abadi et al. (2025), Kurotani et al. (2020), Ishida (2018), Yotova (2016), Hidayah et al. (2025), Machfudz and Hidayat (2022), Bardosono and Pansawira (2021), and Ueda (2019).

Table 1 shows a fundamental similarity between MBG in Indonesia and *Kyushoku* in Japan, namely a shared aim of improving the nutritional status of learners as an investment in human-resource development. At the same time, the two programs differ significantly in institutional arrangements, regulation, nutrition education, and evaluation mechanisms. *Kyushoku* has grown into a comprehensive food-education system supported by a strong legal basis, an integrated curriculum, the involvement of school dietitians, and periodic evaluation. MBG, by contrast, is still at the stage of strengthening implementation, so that it requires regulatory refinement,

stronger governance, and the integration of nutrition education if the benefits of the program are to be sustained.

These findings indicate that Japan's experience can serve as a best practice for developing MBG in Indonesia, particularly in strengthening regulation, integrating nutrition education into the school curriculum, building continuous monitoring and evaluation, and fostering cross-sector collaboration. The adoption of such policies nonetheless needs to account for Indonesia's social, cultural, economic, and institutional conditions so that implementation can proceed effectively and in line with national needs.

Strengths and Weaknesses

Table 2 sets out the strengths and weaknesses of each program across the principal dimensions, drawing the comparison into a form that clarifies where each system offers lessons for the other.

Table 2: Strengths and Weaknesses of the MBG Program and the Kyushoku/Shokuiku System

Aspect	Indonesia (MBG)	Japan (Kyushoku / Shokuiku)
Coverage	Strength: reaches learners nationwide and can be extended to vulnerable groups such as pregnant women and toddlers, giving a broad effect on community nutrition. Weakness: distribution still faces geographic challenges, especially in archipelagic and remote areas with limited logistics infrastructure.	Strength: coverage runs stably through a school system integrated with local government. Weakness: the implementation model is hard to transfer directly to countries with different geographic, social, and cultural conditions.
Program objective	Strength: oriented to improving child nutrition, reducing stunting, and raising human-resource quality. Weakness: objectives still need stronger regulation, clearer success indicators, and continuous evaluation.	Strength: comprehensive objectives that combine nutrition provision with the formation of healthy eating habits through education. Weakness: objectives are shaped by Japan's social and cultural context, so not every component can be replicated elsewhere.
Provision system	Strength: empowers local enterprises, farmers, and food suppliers, with potential to strengthen regional economies. Weakness: distribution, supply chains, and food safety still require stronger governance and cross-sector coordination.	Strength: standardized school-kitchen system with sound operating procedures and food safety. Weakness: requires large investment in kitchens, equipment, and professional staff.

Aspect	Indonesia (MBG)	Japan (Kyushoku / Shokuiku)
Financing	Strength: supported by a national-scale budget as a commitment to community nutrition. Weakness: requires very large financing and therefore transparent, sustainable fiscal management.	Strength: financing shared by central and local government through established mechanisms. Weakness: operations still demand high costs to sustain service quality and facilities.
Nutrition education	Strength: beginning to integrate nutrition education as part of healthy-eating formation. Weakness: implementation is uneven and not yet fully embedded in the school curriculum.	Strength: nutrition education is embedded in the curriculum through Shokuiku, shaping healthy habits from an early age. Weakness: the educational approach must be adjusted where food cultures differ.
Oversight	Strength: oversight through the National Nutrition Agency with related ministries via cross-sector coordination. Weakness: monitoring of food safety, program evaluation, and quality control still needs strengthening across regions.	Strength: clear oversight through national regulation, local government, and periodic evaluation of implementation. Weakness: the oversight system must keep adapting to changing conditions, such as pandemics and other public-health challenges.

Source: author's synthesis of Locke et al. (2025), Bardosono and Pansawira (2021), Abadi et al. (2025), Hidayah et al. (2025), Ishida (2018), Maruyama and Kurokawa (2018), and Kaneda and Yamamoto (2015).

Table 2 indicates that MBG in Indonesia has strengths in broad target coverage and in its potential to improve nutritional status while empowering local economies through the use of regional foods. Its implementation nonetheless faces challenges in logistics distribution across archipelagic areas, large budget requirements, and the strengthening of food-safety oversight and program evaluation (Bardosono & Pansawira, 2021).

Kyushoku in Japan, by contrast, shows a more mature system supported by a strong legal basis, stable financing, nutrition education integrated into the curriculum, and oversight mechanisms that have run consistently. Even so, this model requires large investment in infrastructure and human resources and cannot be applied directly elsewhere without adjustment to local social, cultural, economic, and geographic conditions (Ishida, 2018). Japan's experience offers important lessons for Indonesia on the value of stronger regulation, the integration of nutrition education into the education system, the standardization of food safety, and continuous program evaluation. Indonesia, for its part, has the opportunity to develop an MBG model that is more adaptive to local conditions through the use of local foods, the involvement of small enterprises, and the extension of benefits to vulnerable groups.

Discussion

The comparative results answer the guiding question of this study, namely how the two school-feeding programs are designed, implemented, and evaluated, and which practices can be adapted to strengthen MBG. The findings were obtained by mapping documentary evidence onto shared dimensions and then reading that map through the functions of educational management. This section interprets the findings, connects them to established knowledge, and considers how Japan's experience can inform a modified approach to managing MBG. The core argument is that the gap between the two systems is less a gap in nutritional intention than a gap in managerial capacity, which is precisely the domain of educational management (Gaol, 2023; Kaiseroglou et al., 2025).

Read as a managed system, a national school-feeding program passes through the classical functions of planning, organizing, actuating, and controlling. Planning concerns objectives, menus, budgets, and the legal basis that anchors them. Organizing concerns the arrangement of roles and resources, including professional staffing and supply chains. Actuating concerns the daily delivery of meals and learning, together with the communication that shapes behaviour. Controlling concerns food safety, monitoring, evaluation, and accountability. Where these functions are coherent and mutually reinforcing, program quality tends to be stable; where they are fragmented, quality becomes uneven (Pratama, 2020; Nadeem, 2024). Figure 2 presents this framework and situates the specific lessons discussed below.

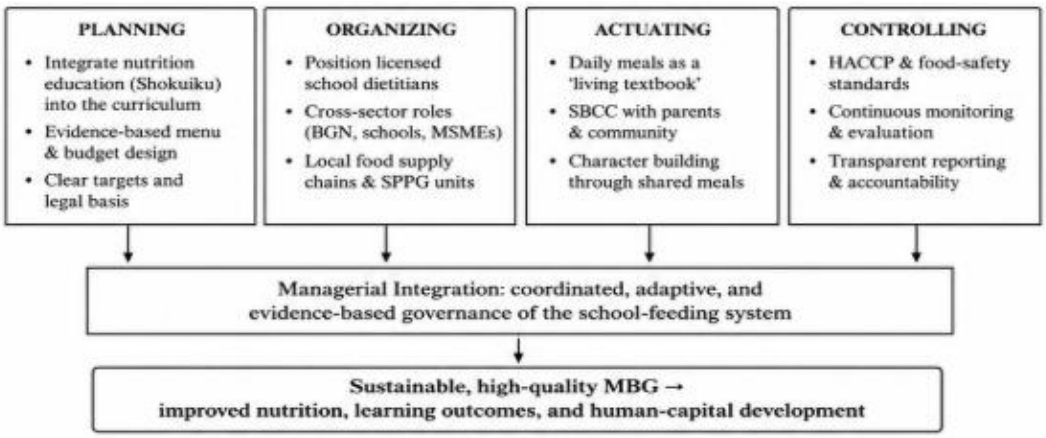


Figure 2. Educational-management framework mapping Kyushoku best practices onto the four management functions for strengthening MBG.

Planning: Embedding Nutrition Education and a Firm Legal Basis

A first lesson from Japan concerns the planning function. The success of *Kyushoku* rests on integrating nutrition education (*Shokuiku*) into learning, so that lunch functions not only to meet nutritional needs but as an educational activity that instils the importance of healthy eating, food diversity, food culture, and respect for food (Maruyama & Kurokawa, 2018). In managerial terms, this is a deliberate planning choice that treats the meal as curriculum rather than as a service bolted onto the school

day. Comparative studies of school food similarly find that programs combining meals with structured food literacy produce more durable behavioural change than meal provision alone (Kelly & Nash, 2021; Cohen et al., 2021).

This approach can be adapted in MBG by designing policy that positions nutrition education as an integral part of the school curriculum. Learning materials can be developed around the local food potential of each region while adhering to the principles of macro- and micronutrient balance applied in *Kyushoku* (Machfudz & Hidayat, 2022). The use of digital media and learning technology can also raise the effectiveness of delivering nutrition content through more interactive approaches suited to the times (Ng et al., 2022). Experience with competency-based curriculum reform in Indonesian madrasah shows that embedding new content succeeds only when planning anticipates teacher capacity, resources, and the gap between intended and delivered competencies (Azizah et al., 2025). So that implementation can be measured objectively, evaluation indicators should be planned from the outset, covering gains in nutrition knowledge, changes in eating behaviour, and long-term effects on the nutritional status of learners. Planning of this kind also requires a firm legal basis. Japan's Basic Act on Shokuiku provided the direction, role allocation, and evaluation mechanism that allowed the program to endure, whereas MBG still needs a stronger regulatory anchor to secure consistency across regions (Abadi et al., 2025; Bundy et al., 2025).

Organizing: Professional Dietitians and Cross-Sector Structure

The organizing function is visible in the professional role of school dietitians. In Japan, licensed dietitians hold a strategic position, not only in designing menus suited to learners' nutritional needs but also as educators who teach healthy eating. The presence of these professionals contributes to the quality of food service while strengthening the systematic delivery of nutrition education (Ishida, 2018; Kurotani et al., 2020). Indonesia can strengthen the presence of school nutrition staff through training, certification, and competency standards adapted to regional characteristics, including remote and archipelagic areas (Maeta et al., 2023). The role of nutrition staff should also be broadened beyond menu design to include the evaluation of food quality, the delivery of nutrition education, and the building of communication among school, family, and community to support healthy eating habits.

Organizing also concerns the structure that connects actors and resources. Research on school leadership and school-based management in Indonesia repeatedly shows that a clear division of roles, competency-based delegation, and stakeholder involvement are decisive for program quality (Gaol, 2023; Juharyanto et al., 2023). Evidence from decentralized education management elsewhere similarly links adequate capacity building and genuine stakeholder involvement to stronger outcomes (Berhanu & Gobie, 2023). In pesantren and madrasah settings, institutional support combined with capable leadership shapes stakeholder engagement and satisfaction, which shows that organizing shapes how well a program is received (Manaf et al., 2026). For MBG, this implies that the coordination among the National

Nutrition Agency, ministries, local governments, schools, and small enterprises is not a peripheral administrative matter but the organizing backbone of the program. The empowerment of local enterprises and farmers as suppliers, when well organized, turns provision into a driver of regional economies rather than a logistical burden (Zafira & Farapti, 2020).

Actuating: Daily Meals as a Living Textbook and Community Engagement

The actuating function is where policy becomes daily practice. In *Kyushoku*, the shared meal is treated as a living textbook, a routine through which children learn to value food, keep clean, share responsibility, and build discipline and cooperation. Mealtime thus becomes a means of character formation and social learning rather than a purely biological event (Maeta et al., 2023). Recent evidence indicates that food-education activities carried out on-site can improve adolescents' interest in and practice of healthy eating over time, which supports the case for treating implementation as pedagogy rather than logistics alone (Maeta et al., 2023; Kelly & Nash, 2021).

Actuating also depends on communication. Japan's experience shows that engaging families and communities, and sustaining social and behaviour change communication, is essential for shaping healthy behaviour beyond the school gate (Solihin et al., 2024). For MBG, parental involvement can be strengthened through social and behaviour change communication to raise nutrition literacy, build healthy eating habits at home, and encourage community participation in supporting the program. Distributed forms of leadership, in which responsibility for delivery is shared across teachers and school staff rather than concentrated at the top, have been associated with more resilient program implementation and offer a useful model for the daily running of MBG at the school level (Nadeem, 2024; Iddrisu, 2018). Principals who adapt their leadership style to the readiness of their staff report stronger teacher performance and more effective institutional management, a capacity relevant to sustaining the routines on which a school-feeding program depends (Wahidaini et al., 2025).

Controlling: Food Safety, Monitoring, and Accountability

The controlling function covers food safety, monitoring, evaluation, and accountability, and it is here that early MBG implementation has shown the greatest strain. Japan maintains high food-safety standards through tight oversight from the selection of raw materials to processing, distribution, and serving (Ishida, 2018; Maruyama & Kurokawa, 2018). This practice can guide Indonesia in strengthening food safety within MBG through the application of Hazard Analysis and Critical Control Points, the verification of local food suppliers, and higher standards of hygiene and sanitation across the entire provision chain. Improvements in shared kitchens, storage facilities, cold-chain systems, and the capacity of food-handling staff also matter if food quality and safety are to be preserved (Maeta et al., 2023). A transparent system for reporting food-safety incidents should be developed as part of evidence-based policy improvement.

Beyond food safety, *Kyushoku* has a monitoring mechanism that lets government track program achievement periodically so that policy can adjust to changing needs and to public-health crises (Kurotani et al., 2020). In the Indonesian context, the evaluation of MBG needs to be designed comprehensively, covering the nutritional status of learners, food quality and safety, the effectiveness of distribution, budget use, and the quality of program governance. Such evaluation is best conducted periodically by the National Nutrition Agency together with local governments so that implementation proceeds in line with its stated objectives (Hidayah et al., 2025; Widodo, 2026). Evaluation should draw on multiple data sources, including school reports, nutrition-status surveys, and policy documents, to support continuous improvement. This mirrors findings in the education-management literature, where periodic monitoring and evaluation combined with total-quality-management principles are consistently associated with sustained quality (Kaiseroglou et al., 2025; Anastasiou & Ntokas, 2024; Qingyan et al., 2023).

Integration, Context, and Theoretical Contribution

Taken together, the four functions point to a single conclusion. The success of *Kyushoku* rests on managerial integration, that is, on planning, organizing, actuating, and controlling that reinforce one another within one coherent system built over several decades (Kurotani et al., 2020). Studies of school feeding elsewhere reach a similar conclusion, linking program success to the alignment of policy, financing, nutrition education, and continuous evaluation (Bundy et al., 2025; Raveenthiranathan et al., 2024). Where these functions are integrated, a school-feeding program behaves like a well-managed educational institution; where they are not, even generous financing produces uneven results.

This reading also modifies how the Indonesian debate has framed MBG. The program is frequently discussed as a nutrition or welfare policy, and less often as an educational-management system. The comparative evidence suggests that the decisive variable separating a mature program from a fragile one is not the presence of meals but the coherence of management functions in the education sector. Framing MBG in this way connects it to a substantial body of work on school-based management and educational quality in Indonesia, where consistent planning, clear roles, systematic staff development, and periodic monitoring are repeatedly identified as the drivers of quality (Gaol, 2023; Juharyanto et al., 2023; Astuti et al., 2024; Tanzeh et al., 2021). It also positions the school-feeding program within the broader agenda of reforming Indonesian education policy, which has long struggled with the gap between ambitious national programs and uneven local implementation (Tintingon et al., 2023).

The adoption of Japan's practices nonetheless cannot be direct. It must account for national conditions such as geography, fiscal capacity, food culture, and institutional capacity, which differ markedly from Japan's (Serena et al., 2024; Yustiani et al., 2024). Comparative policy work of this kind is valuable precisely because it clarifies which elements are transferable in principle and which require substantial

local adaptation. Read through educational management, the lesson for Indonesia is not to copy *Kyushoku* but to build the same managerial coherence around a program that remains distinctly Indonesian, using local foods, engaging small enterprises, and extending benefits to vulnerable groups. Framing MBG as an investment in human capital, rather than as a short-term populist intervention, strengthens the case for the sustained managerial investment that the program requires (Desmond et al., 2021; Muharram et al., 2025). The historical evidence that well-designed school-lunch reform can yield long-term gains in health and human capital lends further weight to this framing (Hinrichs, 2010; Mulyaningsih et al., 2021).

Conclusion

The Free Nutritious Meal (MBG) program in Indonesia and the *Kyushoku* and *Shokuiku* system in Japan share the aim of improving the nutritional status of learners and supporting the formation of a healthy, capable, and productive population. The study nonetheless shows three principal findings. First, the two programs differ fundamentally in regulation, governance, provision systems, financing, nutrition education, and oversight; *Kyushoku* has matured into a comprehensive system supported by a strong legal basis, nutrition education integrated into the curriculum, licensed dietitians, high food-safety standards, and continuous evaluation, whereas MBG remains at the stage of strengthening implementation and requires refinement in institutions, cross-sector coordination, financing, and monitoring. Second, each country holds distinct strengths and challenges; Indonesia is advantaged by broad coverage and the potential to empower local economies through regional foods, yet faces obstacles in distribution across archipelagic areas, large budget requirements, and the strengthening of food safety and governance, while Japan offers a more mature system that nonetheless demands large investment and adaptation before it can be applied elsewhere. Third, several best practices from *Kyushoku* are relevant for adaptation in MBG, namely the integration of nutrition education into the curriculum, the strengthening of the dietitian role, higher food-safety standards, continuous monitoring and evaluation, and stronger collaboration among government, schools, parents, and communities.

Interpreted through educational management, these findings converge on a clear implication. The distance between the two programs is primarily a distance in managerial coherence across the functions of planning, organizing, actuating, and controlling, rather than a distance in nutritional intention. Strengthening MBG therefore calls for treating it as an educational-management system, in which a firm legal basis and curricular nutrition education are planned from the outset, professional roles and cross-sector structures are organized deliberately, daily meals and community communication are actuated as pedagogy, and food safety, monitoring, and accountability are controlled continuously. Adaptation must proceed gradually and be adjusted to Indonesia's geographic characteristics, social and cultural conditions, fiscal capacity, and institutional capacity, so that the program is

not merely a mechanism for meeting nutritional needs but a long-term investment in the quality of human resources.

This study is limited by its reliance on secondary data, which emphasizes the interpretation of policy rather than the empirical measurement of impact. Future research could therefore examine the implementation of MBG through field studies at the school level, evaluate the effect of integrating nutrition education on learners' knowledge and eating behaviour, and develop context-specific managerial models for school-feeding programs in Indonesia. Such work would extend the present comparative findings toward evidence that can guide the sustainable governance of MBG.

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