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Governing zero hunger in the digital era: an analysis of digital transparency in Indonesia's free nutritious meal program

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ABSTRACT

This study aims to analyze digital transparency in the governance of the Free Nutritious Meal (MBG) program in Indonesia and its relevance to achieving the Zero Hunger goal (SDG 2). This qualitative research employs a document analysis method, examining 47 policy documents and official digital information channels purposively selected based on their relevance to MBG governance and the availability of public information over a four-month period. Data were analyzed using thematic analysis involving systematic coding, categorization, and constant comparison to identify patterns of digital transparency. Digital transparency is broken down into five dimensions: policy openness, decision-making processes, procurement and budgeting information, food safety information, and nutrition-related outcomes. The findings indicate that digital transparency remains asymmetric; it is relatively stronger regarding policy regulations and menu information, yet limited concerning decision-making, procurement, budgeting, food safety, and nutrition-related outcomes. Digitalization tends to prioritize internal monitoring over public accountability. This study underscores the importance of implementing open data standards, maintaining an official registry of food safety incidents, and establishing accessible public grievance mechanisms to strengthen MBG governance and support the achievement of the Zero Hunger goal in Indonesia.

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Introduction

Hunger and malnutrition remain a global development problem. The report The State of Food Security and Nutrition in the World 2025 records that around 673 million people, or 8.2% of the world's population, experienced hunger in 2024, and that the world is judged to remain far off track to end hunger by 2030 (FAO & UNICEF, 2025) The 2030 Agenda places this issue under the second Sustainable Development Goal (*Zero Hunger*), particularly target 2.1 on access to safe, nutritious, and sufficient food, and target 2.2 on ending all forms of malnutrition (Haas & Ivanovskis, 2022; Huan et al., 2026; Mishra et al., 2024). School meal programs are among the most widely used policy instruments for this purpose; in 2024, similar programs reached around 466 million children worldwide (WFP, 2024). In Indonesia, the prevalence of child *stunting* was still 19.8% in 2024 (Kemenkes RI, 2026) , so large-scale nutrition interventions remain a policy priority.

In this context, the Indonesian government has implemented the Free Nutritious Meal Program (*Makan Bergizi Gratis*, MBG) since January 2025 through the National Nutrition Agency (*Badan Gizi Nasional*, BGN),

which was established under Presidential Regulation Number 83 of 2024. The governance of the program was subsequently regulated in Presidential Regulation Number 115 of 2025 on the Governance of the Implementation of the Free Nutritious Meal Program, enacted on 17 November 2025. The scale of the program in 2026 is very large. On 20 January 2026, MBG reached around 59.86 million beneficiaries through 21,102 Nutrition Fulfillment Service Units with a target of 82.9 million recipients and 36,617 SPPG throughout 2026, and daily spending of around Rp855 billion (Badan Gizi Nasional, 2026) . The BGN budget ceiling in the 2026 State Budget (APBN) is stated at Rp268 trillion, while the Rp335 trillion figure circulating in the public sphere includes reserve funds in the General State Treasurer Budget Section (Dewi, 2026) . As of early August 2026, MBG spending had reached Rp101.1 trillion for 63.13 million beneficiaries (Saputra, 2026) .

The size of the public resources being managed makes the quality of MBG governance a crucial issue. The Corruption Eradication Commission (KPK) identified several risks, including the absence of an umbrella regulation in the early stage, BGN's dual role as both rule-maker and supervisor, recipient data that had not been verified against the Basic Education Data (*Data Pokok Pendidikan*, Dapodik), a non-transparent partner selection mechanism, and the low ownership of Hygiene and Sanitation Worthiness Certificates (*Sertifikat Laik Higiene Sanitasi*, SLHS), which were held by only 34 of 8,583 kitchens (KPK, 2025). Indonesia Corruption Watch (ICW) highlighted the lack of openness of budget and procurement information from the first months of implementation, according to an interview reported by Ridwan (2025), as well as indications of patronage within the network of partner foundations managing SPPG (Eko, 2026) . Transparancy International indonesia (2025) also mapped corruption-prone points along the program's delivery chain. On the food safety side, the Indonesian Education Monitoring Network (JPPI) recorded 37,270 poisoning victims between January 2025 and May 2026, based on data compiled by Ghaitsa (2026), a figure that differs greatly from the official data once presented by BGN to the House of Representatives (DPR) (CNN, 2025)). These problems emerge within a weakening national integrity landscape: Indonesia's 2025 Corruption Perceptions Index score fell to 34, ranking 109th out of 182 countries (Transparancy International indonesia, 2025) .

In 2026, BGN responded to public pressure with a series of digital instruments, ranging from a seven-module digital supervision system (Badan Gizi Nasional, 2026b) , the public portal Radar MBG, which displays menus and nutritional content per school (Badan Gizi Nasional, 2026b) and a complaint portal for partners and SPPG heads (Badan Gizi Nasional, 2026c) , to an application for schools to rate services (Prameswari, 2026) . This step takes place amid the legal frameworks of public information disclosure (Republik Indonesia, 2008), the Electronic-Based Government System (Republik Indonesia, 2018), and One Data Indonesia (Republik Indonesia, 2019), as well as the improvement of Indonesia's *e-government* development ranking to 64th in the world (United Nations Department of Economic and Social Affairs [UN DESA], 2024). The literature on digital-era governance views information technology as a means of reintegrating public services and strengthening openness (Dunleavy et al., 2006; Dunleavy & Margetts, 2025; Fauzi et al., 2025; Fauzi & Purnamawati, 2025) even as an anti-corruption tool (Bertot et al., 2010) However, publishing information online does not automatically produce significant transparency. Janssen et al. (2012) Janssen et al. (2012) point out various myths of open data, Fox (2007) distinguishes nominal from effective transparency, and Fox (2007) warns that "opaque" transparency rarely leads to "hard" accountability.

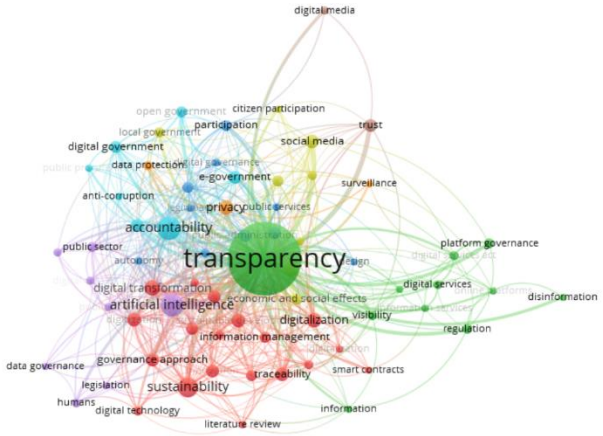


Figure 1. Visualization of Digital Transparency Keyword Occurrence
Source: processed by the authors using VOSviewer, 2026

Based on the VOSviewer visualization, the keyword transparency occupies the most dominant and central position, with strong links to the themes of accountability, e-government, digital government, citizen participation, and trust. This visualization shows that transparency is an important element in studies of digital

governance related to information disclosure, accountability, and public participation. In addition, the connections with the keywords digital transformation, artificial intelligence, information management, traceability, and platform governance show that the use of digital technology is increasingly relevant in supporting the oversight and management of public policy. In the context of the Free Nutritious Meal Program (MBG) in Indonesia, this pattern of linkages provides a foundation for examining how digital transparency can strengthen accountability, information traceability, and oversight in program implementation to support the achievement of the Zero Hunger goal.

Conceptually, transparency is understood as the availability of information about an organization or actor that enables outside parties to monitor its internal workings and performance (Grimmelikhuijsen & Welch, 2012; A. Meijer, 2009; A. J. Meijer et al., 2012) . Ball (2009) emphasizes that transparency carries normative meanings as openness, oversight, and an instrument of decision-making. Grimmelikhuijsen & Welch (2012) formulate computer-mediated transparency around three objects, namely transparency of the decision-making process, transparency of policy content, and transparency of policy outcomes. A review of twenty-five years of transparency research shows that the effects of transparency depend heavily on context and institutional design (Cucciniello et al., 2017) while Harrison & Sayogo (2014) show that transparency becomes meaningful only when it is linked to participation and accountability. This framework is used to read the digital transparency practices of MBG, where the program is expected to focus on supporting *zero hunger* in Indonesia.

Studies on MBG continue to grow, but few have systematically examined its digital transparency dimension. Suprapto et al. (2025) found that the direct impact of MBG on *stunting* and anemia has not been verified because there is no formal outcome-tracking system. Nugroho et al. (2025) mapped a multi-stakeholder collaborative governance model with BGN as the coordination node. Erlyn et al. (2026) showed that SLHS certification does not automatically guarantee food safety without continuous operational supervision, and Abduh et al. (2026) advocated risk-based targeting. As for limited data access, weak accountability mechanisms, and low public involvement, but based on a literature study and before most of BGN's digital instruments were launched. Thus, there is a research gap regarding how digital transparency is practiced across dimensions in 2026, when these digital instruments began to operate, by utilizing multi-source data processed systematically through computer-assisted qualitative data analysis software (*CAQDAS*).

The theoretical gap is not whether a large school-feeding intervention has adopted digital tools, but whether different objects of disclosure enable external verification. The computer-mediated transparency framework distinguishes policy content, decision processes, and policy outcomes (Grimmelikhuijsen & Welch, 2012), while Fox (2007) separates the provision of information from accountability with enforceable consequences. Applied together, these perspectives extend program-governance descriptions by examining the relationship between what is published, what can be independently checked, and what can trigger corrective action. An alternative account attributes incomplete disclosure to rapid scaling, heterogeneous local reporting capacity, and evolving rules rather than strategic withholding. The available documentary evidence can identify patterns consistent with these explanations but cannot adjudicate intent or causal mechanisms.

Based on this background, digital transparency is important to ensure that the implementation of the Free Nutritious Meal Program (MBG) is not only oriented toward providing food, but is also supported by governance that is open, accountable, and open to public oversight. In the context of achieving the Sustainable Development Goals (SDG 2: Zero Hunger), digital transparency plays a role in promoting accurate targeting of beneficiaries, equitable food distribution, oversight of food quality and nutritional content, and accountability in the use of the budget. Therefore, a study of digital transparency is important for understanding the extent to which information disclosure and the use of technology in MBG governance can support the government's efforts to reduce hunger, improve nutritional fulfillment, and realize food security in Indonesia. Theoretically, this study extends the application of the computer-mediated transparency framework to a national-scale food program. Practically, this study offers open data standard recommendations for program implementers.

To address this gap, the study asks: (1) How does publicly accessible MBG information differ across policy content, decision-making processes, policy outcomes, information quality, and feedback and accountability? (2) How do official disclosures compare with oversight reports, national news, and public discussions, particularly where reported figures differ? A qualitative single instrumental case study is employed, with national-level MBG digital transparency practices as the unit of analysis and publicly available documents and digital channels as evidence. The study assesses observable disclosure characteristics rather than estimating causal effects on nutritional outcomes. The analytical categories are defined in the NVivo codebook and assessed through document analysis and cross-source comparison.

Methods

This study uses a qualitative approach with a single instrumental case study (Creswell, 2014; Jackson & Bazeley, 2019; Yin, 2018) The case examined is the implementation of the MBG Program at the national level, with the unit of analysis being the digital transparency practices of the program implementers. The main observation period is 1 January to 30 September 2026, with 2025 documents used as comparative data to understand policy changes. This design was chosen because the phenomenon under study is contemporary, takes place in a real-life context, and the boundary between the phenomenon and its context is not entirely clear (Yin, 2018) . The choice of document analysis follows Bowen (2009), which provides a peer-reviewed methodological account of documentary evidence appraisal and triangulation; thematic coding follows the original analytical procedure described by Braun and Clarke (2006). These methodological articles complement, rather than replace, the case-study design guidance of Yin (2018).

The national program was selected as one instrumental case because common national rules, reporting architecture, and institutional mandates make cross-domain disclosure practices observable within a shared governance setting. Comparing multiple provinces would answer a different question about subnational variation and would require a separate regional sampling design. This case is therefore analytically informative rather than statistically representative; findings should not be generalized to every SPPG or used to infer individual implementation motives.

The analytical framework is built from the three objects of computer-mediated transparency according to Grimmelikhuijsen & Welch (2012) , enriched with information quality attributes (Heald, 2006; Janssen et al., 2012) and the link between transparency and feedback and accountability (Fox, 2007; Harrison & Sayogo, 2014). The conceptual framework of the study is presented in Figure 2, while its operationalization into the NVivo codebook is presented in Table 1.

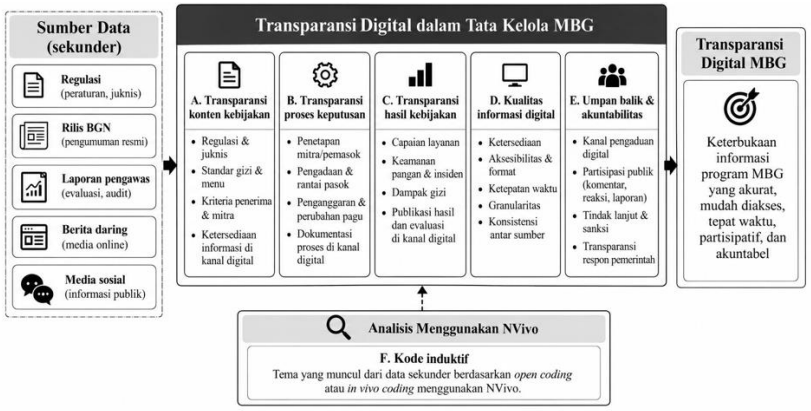


Figure 2. Conceptual framework of digital transparency in MBG governance

(source: compiled by the researchers based on Grimmelikhuijsen & Welch, 2012; Heald, 2006; Fox, 2007)

Data were collected from five groups of sources. First, regulatory and policy documents, namely Presidential Regulation Number 83 of 2024, Presidential Regulation Number 115 of 2025, BGN Regulation Number 1 of 2026 (BGN, 2026d), and BGN technical guidelines. Second, content from official digital channels, including BGN press releases, the Radar MBG portal, and monitoring dashboards developed by vertical agencies such as the Regional Office of the Directorate General of Treasury (DJPb) of Banten Province (2026). Third, reports from oversight institutions and civil society, namely KPK, ICW, Transparency International Indonesia, and JPPI. Fourth, national online media coverage and public conversations on social media (X and Instagram) captured using NCapture with the keywords "makan bergizi gratis", "MBG", "SPPG", and "Radar MBG".

For the descriptive indicators summarized in Table 2, the documentary sampling frame comprised publicly accessible regulatory texts, government announcements, institutional monitoring reports, and national news reports concerning MBG governance and implementation. The primary review window was 1 January–30 September 2026; selected 2025 materials were retained to contextualize the program's initial implementation and regulatory changes. Relevant records were identified through the terms "Makan Bergizi Gratis", "MBG", "SPPG", "BGN", "anggaran MBG", "keracunan MBG", and "Radar MBG". Documents were considered relevant when they reported at least one Table 2 indicator, identified a source or issuing institution, and provided an ascertainable publication or reporting period. Duplicate items, unrelated commentary, and claims without an identifiable origin were excluded from the descriptive synthesis. The indicators and citations in Table 2

constitute the traceable set of materials used for that synthesis; the number of screened and excluded records was not documented and therefore cannot be reported as a comprehensive search yield.

Source triangulation was organized across five evidence categories: regulations and policy documents, official digital channels, oversight and civil-society reports, national online news, and social media discussions. For each reported indicator, the researcher compared the source institution, reference date, geographical or institutional coverage, operational definition, and stated measurement basis. Official statements were checked against available regulatory and oversight evidence, while media and public discussions were used to identify claims requiring corroboration rather than treated as independently verified measurements. Differences that could be explained by distinct definitions or coverage were documented as such; discrepancies that remained unresolved were preserved with source attribution and interpreted as limitations in public comparability, not automatically as proof of inaccurate reporting. Screenshots, dated archives, source classifications, and NVivo analytical memos supported the traceability of these comparisons. This protocol specifies the basis for interpreting the transparency indicators without assuming that every divergent figure represents a substantive contradiction.

For media coverage, the intended eligibility criteria were identifiable publication date, attributable publisher, direct relevance to MBG transparency or the indicators under study, and enough context to determine the reported figure's scope. Reposts, duplicate syndicated stories, unattributed claims, and items without verifiable publication context should be excluded. The existing research record does not report a reproducible media search log, a final source count, or a saturation assessment; these are methodological reporting limitations and should be completed from the original archive before submission. Coding was not documented as independently double-coded, so Cohen's kappa and Krippendorff's alpha cannot validly be reported. Analytical memos, explicit coding definitions, and cross-source comparisons support traceability but do not substitute for intercoder reliability.

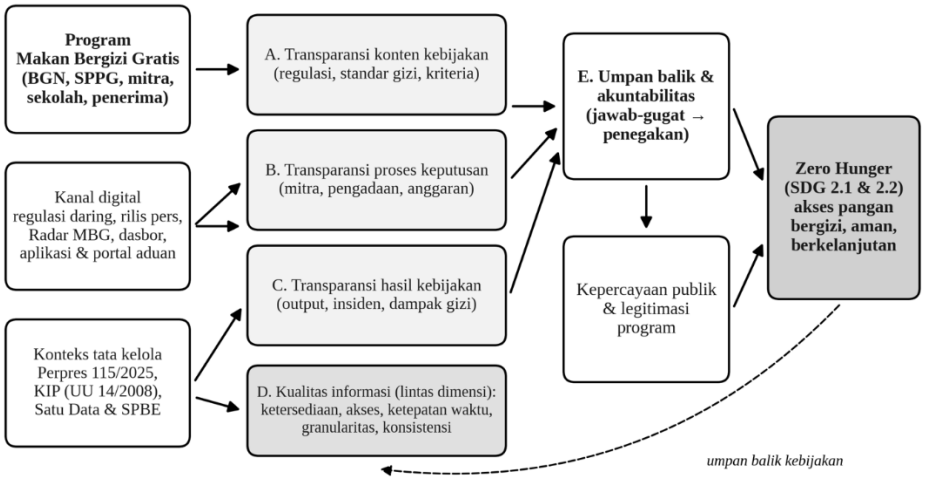


Figure. 3 Transparansi Digital

based on five information quality attributes: availability, accessibility and format (HTML, PDF, or machine-readable data), timeliness of updates, level of granularity (national, provincial, or SPPG), and consistency across sources. Each audited page was documented in the form of screenshots and dated web archives to anticipate changes or deletion of content, in line with the principle of document analysis as a qualitative method (Bowen, 2009) .

Table 1. NVivo codebook for the analysis of MBG digital transparency

Dimension (parent node)	Child nodes	Operational definition/indicators
A. Policy content transparency	A1 Regulations & technical guidelines A2 Nutrition standards & menu A3 Recipient & partner criteria	Online availability of the rules, nutrition standards, and program criteria before or while the policy is implemented
B. Decision-making process transparency	B1 Partner/foundation selection B2 Procurement & supply chain B3 Budgeting & budget ceiling changes	Openness about who decides what, with which criteria and procedures, including data on partners, suppliers, and the budget

Dimension (parent node)	Child nodes	Operational definition/indicators
C. Policy outcome transparency	C1 Output achievements C2 Food safety & incidents C3 Nutritional impact	Information on the number of recipients, SPPG, portions, poisoning incidents, and nutrition indicators (stunting, anemia)
D. Digital information quality	D1 Availability D2 Accessibility & format D3 Timeliness D4 Granularity D5 Consistency across sources	Cross-dimensional attributes for assessing whether transparency is nominal or effective
E. Feedback & accountability	E1 Complaint channels E2 Public participation/oversight E3 Follow-up & sanctions	The existence of channels for citizens to ask questions, report, and obtain responses or consequences
F. Inductive codes	F1 Information gap between central and regional levels F2 Digital implementation obstacles F3 Public perception and trust	Differences in information about MBG implementation conveyed by the central government and regional implementers.

Source: Adapted from Grimmelikhuijsen and Welch (2012), Heald (2006), and Fox (2007).

Data analysis was conducted using NVivo 15, following the six phases of thematic analysis (Braun & Clarke, 2006) and the procedures of condensation, display, and conclusion drawing (Miles et al., 2014) The analysis stages in NVivo are as follows. (1) Social media data were imported into the NVivo project and then given attributes through *file classification* (source type, actor, date, and level of government). (2) Deductive coding was carried out based on the codebook in Table 1, accompanied by inductive coding (*open* and *in vivo coding*) to capture new themes outside the framework. (3) Analytical memos and annotations were used to record initial interpretations and the trail of analytical decisions. (4) NVivo queries were run, including a *Word Frequency Query* (stemmed words, top 50 words), a *Text Search Query* (for example "transparency", "data", "budget", and "poisoning", with derivative word search), a *Matrix Coding Query* (node × source type), and a *Crosstab Query* (node × actor). (5) Visualizations in the form of *hierarchy charts*, *project maps*, and *comparison diagrams* were used to read patterns of relationships between themes. (6) The final themes were interpreted with reference to the conceptual framework and the literature (Bazeley & Jackson, 2013).

Qualitative coding was performed by a single researcher. Accordingly, inter-coder reliability coefficients such as Cohen's kappa or Krippendorff's alpha were not calculated and cannot be reported. The predefined codebook, operational definitions, source classifications, and analytical memos provided a documented basis for reviewing coding decisions; nevertheless, the absence of independent coding is a potential threat to interpretive consistency and construct validity. Cross-source triangulation addresses differences in documentary evidence but does not substitute for an independent coder reliability assessment.

This study has several methodological assumptions and limitations. The assumption used is that the information available on official digital channels reflects the implementers' policy choices regarding what is opened to the public. The limitations include the dynamic nature of digital content, the possibility of media reporting bias, and limited access to BGN's internal systems, which are not open to the public. Therefore, the findings of this study are read as a snapshot of digital transparency up to the end of September 2026, not as a final assessment of the overall governance of the program.

Results and Discussion

An overview of MBG implementation in 2025–2026 is presented in Table 2, with each descriptive indicator linked to its cited public source. The table summarizes the program's regulatory basis, beneficiaries, operational SPPG units, budget allocations and realization, food safety incidents, and digital reporting. These figures must be interpreted in relation to their respective reference dates, definitions, and reporting coverage. In particular, the Rp268 trillion BGN budget ceiling and the Rp335 trillion figure including reserve funds describe different budget scopes rather than necessarily conflicting totals. Similarly, poisoning figures reported by different institutions refer to potentially different reporting windows, case definitions, and collection methods. Consequently, divergent figures are treated first as matters for source comparison and verification; only differences that remain unexplained after comparison are considered evidence of limited comparability in public information. This distinction is important when assessing the consistency dimension of effective digital transparency (Heald, 2006).

The classifications in the transparency matrix are qualitative judgments based on the presence, accessibility, granularity, timeliness, and cross-source consistency of disclosed information; they are not scores from a validated psychometric scale. The study therefore does not report Cronbach's alpha, effect sizes, or statistical confidence intervals, and the labels should not be interpreted as quantitative thresholds.

Table 2. Brief profile of the implementation of the MBG Program 2025–2026

Indicator	Data	Source
Institutional legal basis	Presidential Regulation No. 83 of 2024 on the National Nutrition Agency	Republik Indonesia (2024)
Governance legal basis	Presidential Regulation No. 115 of 2025, enacted 17 November 2025 (6 chapters)	Republik Indonesia (2025)
Beneficiaries	59.86 million (20 Jan 2026); 63.13 million (early Aug 2026); target 82.9 million	BGN (2026a); Saputra (2026)
Number of SPPG	21,102 (20 Jan 2026); 26,097 operating (May 2026); target 36,617	BGN (2026a); Ghaitsa (2026)
2026 budget	BGN budget ceiling Rp268 trillion; Rp335 trillion includes reserve funds in BA BUN	Dewi (2026)
Budget realization	Rp101.1 trillion (as of early August 2026)	Saputra (2026)
Allocation structure	70% raw materials, 20% operations, 10% partner incentives	BGN (2026a)
Poisoning victims	6,517 (BGN version, Oct 2025) vs 8,649 (JPPI version, Sep 2025); 37,270 cumulative Jan 2025–May 2026 (JPPI)	CNN Indonesia (2025); Ghaitsa (2026)
SLHS ownership	34 of 8,583 kitchens (2025)	KPK (2025)
Digital reporting by SPPG to Radar MBG	± 85% of SPPG (August 2026)	BGN (2026e)

Source: Compiled by the researchers from official documents and news reports, 2026.

Analytically, Table 2 juxtaposes institutional mandates, program reach, fiscal reporting, food-safety reporting, and digital reporting coverage rather than treating all figures as equivalent performance measures. The Rp268 trillion BGN ceiling and Rp335 trillion figure including reserve funds are not necessarily contradictory estimates of the same budget; their divergent scope illustrates the importance of publicly attached definitions. Likewise, the 6,517 and 8,649 food-safety counts were reported by different organizations with different reference dates and potentially different case definitions, so they cannot establish an undercount without harmonized denominators and reporting rules. In transparency theory, the issue is whether external readers can reconstruct the scope, source, and calculation of published claims: nominal visibility is not the same as effective verifiability (Heald, 2006; Fox, 2007).

On the dimension of policy content transparency, MBG's openness performance is relatively the best. The main regulations can be accessed by the public through the JDIH website and the government regulation portal, while technical guidelines and derivative regulations are published on the BGN website, including BGN Regulation Number 1 of 2026 on the management of food waste, garbage, and domestic wastewater (BGN, 2026d). Presidential Regulation Number 115 of 2025, which consists of six chapters, also contains a digitalization mandate: Article 11 regulates the planning of data and information system use to support mapping, data collection, reporting, and monitoring "in real time and digitally", while Article 55 links program monitoring to an integrated data management system in line with the One Data Indonesia policy (Republik Indonesia, 2025). Even so, this content transparency arrived late. The program ran for around ten months without an umbrella regulation at the level of a presidential regulation Eko (2026) and KPK (2025) judged that the criteria for cooperation with foundations, business entities, and cooperatives in the initial arrangements were still vague. In the framework of Grimmelikhuijsen & Welch (2012) , content openness that comes after major decisions have been made functions more as *ex post* legitimation than as a space for public deliberation.

On the dimension of decision-making process transparency, this study finds a low level of openness. The processes of selecting the partners and foundations that manage SPPG, choosing suppliers, and determining raw material prices are not published as open data that the public can trace. KPK (2025 noted that the absence of clear procedures opens risks of undocumented supplier selection, ambiguous *mark-up* mechanisms, and even fictitious kitchens. ICW traced 102 partner foundations in 38 provinces and found that some of their administrators were linked to political networks, in addition to the involvement of the Indonesian National Armed Forces (TNI) and National Police (Polri) in managing hundreds of SPPG (Eko, 2026) . Di tingkat regulasi, pengawasan proses lebih banyak diletakkan pada aparat pengawasan intern pemerintah di At the regulatory level, process oversight is placed largely with the government internal supervisory apparatus within BGN (Article 56), and the Presidential Regulation also provides room for accelerated procurement that allows direct appointment (Republik Indonesia, 2025). The combination of internal oversight and accelerated

procurement procedures without any obligation to publish partner data makes the process dimension a "black box" of MBG governance. This finding is in line with the identification of corruption risks by Transparency International Indonesia (2025) and with ICW's early criticism of the closed nature of procurement mechanisms (Ridwan, 2025).

Fiscal transparency, which is part of the process dimension, shows a similar pattern. Budget information is conveyed mainly through official statements, press releases, and working meetings with the DPR, rather than through structured data channels. As a result, the public received seemingly contradictory figures, namely Rp335 trillion and Rp268 trillion, which were only later explained as the difference between the BGN budget ceiling and reserve funds in the General State Treasurer Budget Section (Dewi, 2026). BGN also stated an allocation structure of 70% for raw materials, 20% for operations, and 10% for partner incentives (BGN, 2026a), but details of the budget ceiling and realization per SPPG are not openly available. The dashboard developed by the Regional Office of DJPb Banten Province (2026) is an example of good practice because it displays the number of operational SPPG, suppliers, and beneficiaries per province, but its coverage is regional and still aggregate. This condition reflects what Heald (2006) calls the illusion of transparency, namely when the volume of published information increases, but the public's ability to assess performance does not increase with it.

On the dimension of policy outcome transparency, significant progress has occurred in *output* information. BGN operates a seven-module digital supervision system that monitors raw material procurement, processing, distribution, and compliance with SOPs and service levels (BGN, 2026c). On 13 August 2026, BGN launched the Radar MBG portal, which allows the public to see recipient schools, daily menus, nutritional content, food photos, and the SPPG that produces them; around 85% of SPPG have submitted digital reports to the system (BGN, 2026e). This instrument shifts transparency from being oriented toward reporting to superiors to information that can be accessed directly by parents and schools. However, the information opened through Radar MBG is limited to what is served on the plate, while cost per portion, supplier identity, SLHS status, and incident history per SPPG are not included in the scope of information announced. This study calls this pattern *showcase transparency*, namely openness on information the public can see, but not yet on information the public can use to hold the implementers to account.

The greatest weakness of the outcome dimension lies in food safety incident data and nutritional impact. Until the end of the observation period, this study found no official food safety incident registry published periodically and openly. Poisoning victim figures instead emerge from various different sources: BGN reported 6,517 victims to Commission IX of the DPR on 1 October 2025, while JPPI recorded 8,649 victims as of 27 September 2025 (CNN Indonesia, 2025), and ICW recorded 13,168 cases up to mid-October 2025 (Schoolmedia, 2026). In 2026, JPPI recorded 9,167 new victims in the January–May period and highlighted that most of the 26,097 operating SPPG did not yet hold an SLHS (Ghaitsa, 2026). This vacuum of official data is filled by data compiled by civil society, so that the figures become an arena of contestation rather than a shared basis for improvement. This finding reinforces the argument of Erlyn et al. (2026) that MBG food safety governance requires an integrated feedback mechanism, not just certification at the outset. At the impact level, Suprapto et al. (2025) showed that no nutritional outcome tracking system exists, while KPK (2025) noted that recipient data had not been verified against Dapodik. Without linking program data to nutritional indicators, MBG's contribution to SDG target 2.2 is difficult to prove or to refute.

On the dimension of feedback and accountability, BGN began building horizontal channels in the second half of 2026, namely a complaint portal for partners and SPPG heads to report unfair treatment and inadequate kitchen facilities (BGN, 2026b), as well as a rating application that allows schools to assess SPPG services on a one-to-five star scale (ANTARA, 2026). Both instruments are progress, but their users are internal or semi-internal actors of the program, not parents and the general public. Meanwhile, the reporting mechanism regulated by the Presidential Regulation is vertical: the Head of BGN reports program implementation results to the President (Article 58), and based on a search of the regulatory text, this study found no explicit provision on an obligation to publish program data or on a public complaint mechanism (Republik Indonesia, 2025). In Fox's (2007) typology, this condition so far produces only "soft" accountability in the form of an obligation to explain, not yet "hard" accountability accompanied by consequences. The collaborative governance model mapped by Nugroho et al. (2025) places the monitoring function as one stakeholder cluster; this finding shows that the cluster is not yet supported by adequate open data. The synthesis of findings across the four dimensions is presented in Table 3. The matrix shows that MBG's digital channels are strongest in policy content transparency and menu-level output information, and weakest in the partner selection process, procurement, detailed budgeting, and food safety incidents.

The labels in Table 3 are qualitative, within-case judgments based on the types of publicly identifiable evidence, not scores derived from a validated cross-program benchmark. For policy content, accessible legal texts support the assessment; for decisions, the absence of a verified public supplier/procurement register in the

reviewed channels constrains independent scrutiny; for outcomes, menus are visible but a consolidated incident registry and longitudinal nutrition measures were not identified. The evidence therefore supports a bounded comparison of disclosure objects, not a ranked performance comparison with other national feeding programs. A systematic comparison against fifteen empirical studies, as requested by the reviewer, has not been completed and should not be represented as having been conducted.

Table 3. Matrix of MBG digital transparency findings (up to September 2026)

Dimension	Identified digital channels	Level	Main gaps
Policy content	JDIH/regulation portals, BGN technical guideline pages	High	Governance regulation issued late; partnership criteria insufficiently detailed
Decision process	Press releases, DPR working meetings	Low	No open data on partners, suppliers, prices, and procurement; oversight is internal
Process (fiscal)	Official statements; DJPb regional dashboard	Low–moderate	Budget ceiling figures differ; no breakdown per SPPG
Outcomes (output)	Radar MBG, BGN achievement releases	Moderate–high	Limited to menu and nutrition; ±15% of SPPG have not yet reported
Outcomes (incidents)	No official registry	Low	BGN, JPPI, and ICW figures differ; data filled in by civil society
Outcomes (nutritional impact)	Not identified	Very low	No stunting/anemia tracking; recipient data not yet linked to Dapodik
E. Feedback	Partner/SPPG head complaint portal; school rating application	Moderate	Users are internal actors; no citizen complaint channel with follow-up status yet

Source: Results of digital channel audit and document analysis, 2026

A total of 59 coding references were obtained, spread across six node categories. Inductive codes were the node with the most references, at 18 references (30.51%), followed by feedback and accountability with 12 references (20.34%) and policy content with 10 references (16.95%). Next, policy outcomes obtained 9 references (15.25%), decision process 7 references (11.86%), and information quality was the node with the fewest references, at 3 references (5.08%). This finding shows that coding was most concentrated on themes that emerged during the analysis process, while aspects of information quality were relatively less identified in the analyzed sources. However, these reference counts do not directly indicate the level of quality or success of digital transparency in the Free Nutritious Meal Program (MBG).

Overall, the NVivo analysis results show differences in the distribution of coding references among regulations, BGN releases, oversight reports, online news, and social media. This finding can serve as a basis for examining how aspects of digital transparency in the management of the MBG Program are discussed by various sources. A deeper interpretation still requires examination of the content of the references, the context of the statements, and the inductive themes that emerged, so that the research conclusions are not based solely on coding frequency.

Table 4. NVivo Matrix Coding Query results: number of references per node by source type

Node	Regulations	BGN releases	Oversight reports	Online news	Social media
Policy content	3	0	1	4	2
Decision process	1	2	2	0	2
Policy outcomes	0	2	1	2	4
Information quality	2	0	1	0	0
Feedback & accountability	12	0	0	0	0
Inductive codes	3	7	0	4	4
Total	21	11	5	10	12

Source: NVivo 15 output, 2026

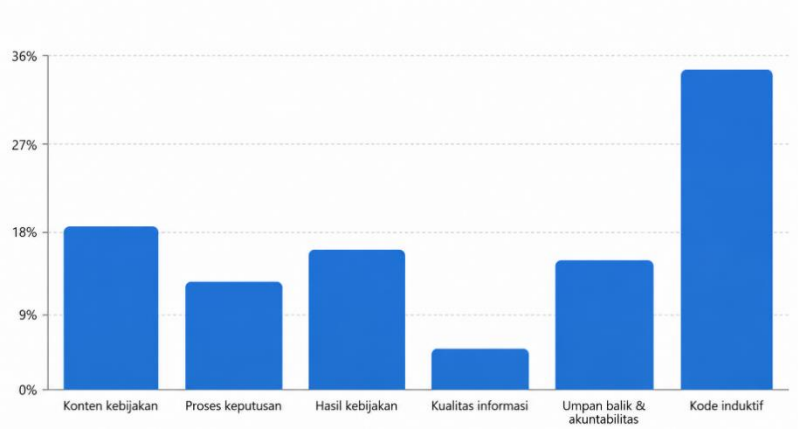
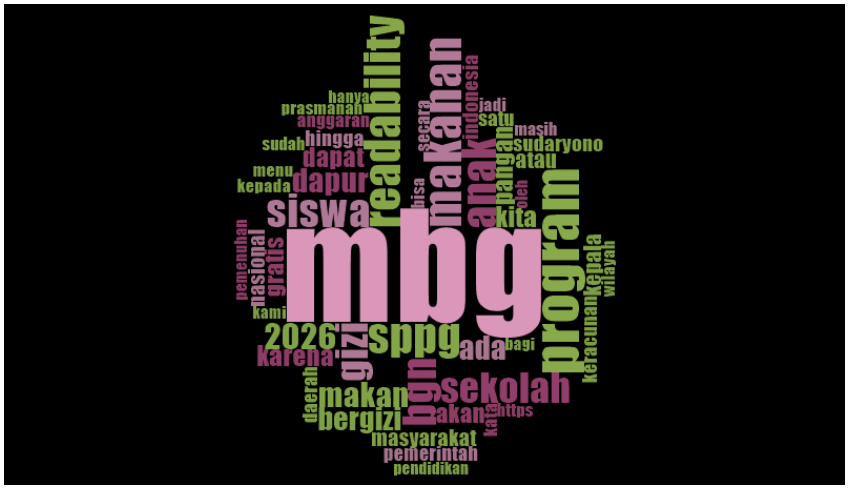


Figure 4. Percentage of NVivo analysis coverage

Source: NVivo 15 output processed by the researchers, 2026

Several competing explanations are compatible with the observed asymmetry. A principal–agent perspective suggests that internal reporting may satisfy hierarchical principals while leaving citizens with limited information; institutional legitimacy pressures may favor highly visible disclosures; rapid expansion, inconsistent reporting definitions, and uneven SPPG capacity may also produce gaps without deliberate concealment. The present document analysis establishes which information was publicly identifiable in the reviewed channels but does not observe internal decision-making or test these mechanisms. It therefore cannot rule out capacity constraints, strategic selectivity, or institutional imitation. Discriminating among these accounts would require interviews, system access, procurement records, and comparative regional process tracing. The difference between visibility and verifiability nevertheless remains relevant across these explanations (Fox, 2007; Cucciniello et al., 2017).



Source: NVivo 15 output processed by the researchers, 2026

This study finds uneven public verifiability across the digital information channels examined for Indonesia's Free Nutritious Meal Program. Regulatory texts and menu-level information were identifiable, while the reviewed channels did not provide comparably traceable SPPG-level procurement, expenditure, incident, and longitudinal nutritional outcome information. Differing budget scopes and incident reporting dates demonstrate the need to distinguish inconsistent metadata from substantive discrepancies. These are descriptive findings about public availability, not evidence of intentional opacity, causal effects on nutrition, or the effectiveness of individual oversight bodies. Alternative explanations including rapid scale-up, institutional capacity, and selective disclosure incentives remain unresolved. More structured, dated, and interoperable publication of source definitions, supplier and expenditure information, food-safety reports, and complaint outcomes could make external verification more feasible; whether such measures improve accountability or SDG 2 outcomes requires subsequent empirical evaluation.

Alternative explanations for this pattern need to be considered. The limits of process and outcome transparency do not merely reflect a deliberate intention to withhold information, but may also be influenced by the very rapid pace of program expansion, limited institutional and data capacity at the SPPG level, and

regulation that was only issued in late 2025 (Suprapto et al., 2025) . Differences in incident figures may also stem from non-uniform case definitions and recording methods between government institutions and civil society. However, these explanations actually underline the need for jointly agreed data standards. As shown by Cucciniello et al. (2017) , the effect of transparency on trust and accountability depends on the institutional design that accompanies it.

The implications for *Zero Hunger* governance are quite clear. The SOFI 2025 report stresses the importance of better data systems to accelerate efforts to end hunger (FAO et al., 2025), while global experience with school feeding programs shows that program sustainability depends on legitimacy and public trust (WFP, 2025). Based on these findings, several steps can be considered: (1) an MBG open data standard at the SPPG level containing partner identity, budget ceiling and realization, supplier lists, SLHS status, and incident history, in a machine-readable format integrated with One Data Indonesia (Republik Indonesia, 2019) and the SPBE architecture (Republik Indonesia, 2018); (2) an official food safety incident registry managed jointly with health authorities and food safety supervisors and updated periodically; (3) expansion of Radar MBG into a citizen complaint channel with traceable follow-up status; (4) integration of recipient data with Dapodik and nutritional indicators so that the program's contribution to SDG 2.2 can be measured, including through the risk-based targeting approach proposed by Abduh et al. (2026); and (5) strengthening of BGN's public information service obligations in accordance with the Public Information Disclosure Law (Republik Indonesia, 2008).

This study has limitations. The analysis relies on information available in the public sphere up to September 2026, so BGN's internal systems that are not open cannot be assessed directly. Some incident data come from civil society monitoring whose methodology differs from that of official data. Further research is recommended to (1) conduct a comparative study across provinces on transparency practices at the SPPG level, (2) quantitatively measure the effect of using Radar MBG on parents' trust, and (3) assess the relationship between program data openness and the achievement of nutritional indicators in the medium term.

Conclusions

This study concludes that publicly accessible information on Indonesia's Free Nutritious Meal Program (MBG) exhibits an asymmetric pattern of digital transparency. Based on qualitative document analysis and the operational codebook, policy content and menu-level output information were more readily identifiable in public channels, whereas information concerning partner selection, procurement, SPPG-level expenditure, food safety incidents, and nutritional outcomes was less accessible or insufficiently detailed. The assessment covered policy content, decision-making processes, policy outcomes, digital information quality, and feedback and accountability. The terms "relatively stronger" and "limited" describe comparative qualitative patterns within the examined corpus, not scores derived from a validated quantitative scale. Accordingly, no Cronbach's alpha, effect size, confidence interval, or statistically validated threshold is claimed; these would require a separate instrument-development and quantitative validation study. The findings suggest opportunities for improving public verifiability, but do not establish that digital transparency causes better nutritional outcomes or governance performance. As testable policy proposals, BGN and relevant oversight institutions could, within 12 months, publish standardized SPPG-level records of partner identities, procurement awards, budget allocations and realized expenditure, and food safety incidents, with quarterly public updates and independent audits. Future evaluations could measure the proportion of operating SPPGs publishing complete quarterly records, the percentage of records updated within 30 days of quarter-end, the proportion of reported incidents with documented resolution, and the share of public complaints receiving a traceable response within a defined service period. Proposed benchmarks such as at least 90% SPPG reporting completeness and 90% on-time quarterly publication by month 12 should be treated as prospective targets for stakeholder validation, not as empirical findings or established standards. Future studies should preregister transparent scoring rules, validate measurement instruments, and assess whether changes in disclosure are associated with independently measured accountability, food safety, and nutritional indicators relevant to SDG 2. These conclusions are limited by reliance on publicly available records, a single researcher's qualitative coding, and differences in reporting definitions and periods across sources. They therefore characterize the observed public-information environment rather than the entirety of MBG's internal governance or its causal contribution to Zero Hunger.

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