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REVIEW ARTICLE **OPEN ACCESS**

Stunting Reduction in Indonesia: Policy Milestones (2018-2025) and Program Implementation Outcomes (2018-2024)-A Structured Desk Review

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Abstract:

Background: Stunting remains a major public health challenge and a national development priority in Indonesia. Since 2018, the government has implemented multisectoral policies and integrated intervention programs to accelerate stunting reduction. This study aims to analyze the development of national stunting reduction policies and their implementation in Indonesia from 2018 to 2025.

Methods: This study employed a qualitative descriptive approach using a desk review of national policy documents and reports published between 2018 and 2025. Sources included presidential regulations, national strategies, ministerial reports, and official publications. Data were analyzed through thematic synthesis to identify policy developments, program implementation, achievements, and challenges.

Results: The findings indicate substantial but uneven progress in strengthening policy frameworks, institutional coordination, and intervention coverage. National stunting prevalence declined from 30.8% in 2018 to 19.8% in 2024. Key policy milestones included the National Strategy for the Acceleration of Stunting Prevention (2018) and Presidential Regulation No. 72/2021, which institutionalized multisectoral convergence. However, several indicators, such as iron-folic acid supplementation and adolescent nutrition programs, showed declining or suboptimal performance. Regional disparities, fragmented data systems, and uneven local capacity remain significant challenges.

Discussion: The findings suggest that Indonesia's multisectoral policy approach has coincided with measurable progress in reducing stunting prevalence, although a direct causal contribution cannot be established from document analysis alone. Persistent disparities in implementation capacity, monitoring systems, and regional resource allocation continue to limit the equitable effectiveness of programs across provinces.

Conclusions: Indonesia has made notable progress in reducing stunting through strengthened policies and multisectoral approaches. However, the national target of 14% by 2024 has not yet been achieved. Strengthening local capacity, improving data integration, and enhancing community-based and behavior change interventions are essential to accelerate progress and ensure sustainable outcomes.

Keywords: Stunting, Public policy, Program implementation, Indonesia, Multisectoral governance, Desk review.

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1. BACKGROUND

Stunting remains a major global public health challenge, particularly in low- and middle-income countries. It reflects chronic undernutrition during critical periods of growth and development, especially in the first 1,000 days of life. Children who experience stunting are at increased risk of impaired cognitive development, reduced productivity in adulthood, and a higher likelihood of developing non-communicable diseases later in life [1, 2]. As such, stunting is not only a health issue but also a significant barrier to human capital development and economic growth [3].

Globally, substantial efforts have been made to reduce stunting as part of the Sustainable Development Goals [4, 5]. Despite these efforts, progress has been uneven across countries, with persistent challenges related to poverty, food insecurity, limited access to health services, and inadequate maternal and child care practices. Evidence suggests that effective stunting reduction requires comprehensive, multisectoral approaches that address both immediate and underlying determinants of nutrition [3].

Indonesia continues to face a significant burden of stunting, despite notable progress in recent years. National survey data indicate a declining trend in stunting prevalence; however, the rates remain above global health targets [6, 7]. The government of Indonesia has demonstrated strong political commitment by implementing a range of policies and programs aimed at accelerating stunting reduction [8, 9]. Since 2018, the country has adopted a multisectoral approach that integrates nutrition-specific and nutrition-sensitive interventions across sectors, including health, education, sanitation, and social protection.

Key policy initiatives include the National Strategy for the Acceleration of Stunting Prevention and Presidential Regulation No. 72 of 2021, which strengthened institutional coordination through the establishment of stunting reduction acceleration teams at national and subnational levels [8, 9]. These initiatives emphasize convergence, decentralization, and community-based intervention as core strategies. However, variations in local implementation capacity and governance remain important considerations in policy implementation. Recent evidence further indicates that stunting policy implementation is constrained not only by technical program design but also by financing limitations, weak inter-organizational coordination, cultural barriers, and insufficient multisectoral collaboration [10].

While numerous studies have examined the determinants of stunting and the effectiveness of specific interventions [11, 12], limited research has systematically analyzed the evolution of national policies alongside their implementation over time in Indonesia. The contribution of this review is therefore not that prior determinant-focused studies are lacking, but that it explicitly connects the temporal development of national policy design with subsequent implementation performance and governance constraints, an integration that remains limited in the existing Indonesian stunting literature.

Given the evolving landscape of stunting-related policies and program implementation in Indonesia, a structured desk review of policy milestones and program implementation over time is warranted. This need is particularly salient given that the national target of reducing stunting prevalence to 14% by 2024 has not yet been fully achieved [9].

Unlike previous studies that primarily focus on specific determinants or localized interventions, this study provides a comprehensive longitudinal analysis of national stunting reduction policies and program implementation in Indonesia from 2018 to 2025. By integrating policy timelines, national survey data, and program performance indicators, this study offers a systems-level perspective on the alignment between policy design and implementation outcomes.

Therefore, this study aims to analyze the development of national stunting reduction policies and their implementation in Indonesia from 2018 to 2025 through a comprehensive review of policy documents and reports. The findings are expected to contribute to strengthening policy implementation strategies and provide relevant insights for other low- and middle-income countries facing similar challenges.

2. METHODS

2.1. Study Design and Data Sources

This study employed a qualitative descriptive design using a structured desk review approach to examine the development and implementation of national stunting-reduction policies in Indonesia [13, 14]. The evidence base for this review comprised two distinct source types. The

primary source documents consisted of official policy documents and government reports published between 2018 and 2025, including presidential regulations, national strategies, ministerial reports, and official publications from relevant government institutions; this corpus was systematically searched, screened, and thematically coded (described in the Search Strategy and Data analysis). A secondary, contextual body of peer-reviewed literature and programme evaluation studies was used to interpret and contextualize findings from the primary source documents in the Discussion, rather than being included in the coded thematic synthesis itself. This study does not follow systematic review methodology (*e.g.*, PRISMA) and should be regarded as a structured desk review.

2.2. Search Strategy

Documents were identified through searches of official institutional repositories, including the websites and public document repositories of the Coordinating Ministry for Human Development and Culture, the National Development Planning Agency (Bappenas), the Ministry of Health, the National Population and Family Planning Board (BKKBN), the Vice President Secretariat, and the national legal database (peraturan.go.id). Supplementary contextual literature was identified through Google Scholar and PubMed using combinations of the terms "stunting," "policy," "Indonesia," "implementation," and "multisectoral." Searches covered documents published between January 2018 and June 2025, and the final search was conducted in June 2025.

2.3. Document Selection

Documents were included if they met the following criteria:

(1) Related to stunting reduction policies or programs in Indonesia;

(2) Published between 2018 and 2025; and

(3) Issued by official government institutions or recognized international organizations.

Documents that were not directly relevant, were duplicates, or lacked sufficient information to inform any of the four thematic domains were excluded. Documents were identified through iterative searches of the institutional repositories and databases listed above, continuing until no substantively new documents relevant to the eligibility criteria were identified (*i.e.*, until saturation was reached). Titles and content were screened against the eligibility criteria described above, and documents that were duplicates, not directly relevant, or lacked sufficient information to inform any of the four thematic domains were excluded. This process resulted in a final set of primary source documents spanning the study period, which is listed in full in **Appendix A**.

2.4. Data Analysis

Data were analyzed using thematic synthesis, informed by an implementation-science perspective examining how policy design translates into outcomes through five interrelated dimensions: (1) institutional and multisectoral governance arrangements; (2) subnational implementation capacity; (3) financing and resource allocation; (4) information and data systems; and (5) community engagement and behavior change. These dimensions guided the coding and interpretation of four thematic domains:

(1) Policy development and regulatory milestones;

(2) Program implementation;

(3) Trends in key outcome indicators; and

(4) Implementation challenges.

Data extraction and coding were performed by a single author using a standardized extraction form capturing document type, issuing institution, year, and thematic domain. As coding was not independently cross-checked by a second coder, this single-coder approach may have introduced some subjectivity, which is acknowledged as a limitation (as discussed in the Limitations section). The credibility of official government sources was assessed qualitatively based on the issuing authority and whether the document was an official publication; independent quality appraisal of programme evaluation reports was not performed, which is also acknowledged as a limitation. Program performance indicators were compared against national targets, drawn from the sources indicated in each table, to assess the extent of achievement. The analysis involved data extraction, coding into thematic categories, and synthesis to identify patterns and gaps.

3. RESULTS

3.1. Policy Development and Regulatory Milestones

Data on the evolution of Indonesia's stunting-related policy framework were derived from national policy documents and official reports [8, 15-21] (Table **1**). Indonesia has progressively strengthened its policy framework for stunting reduction since 2018 (Table **1**). The launch of the National Strategy for the Acceleration of Stunting Prevention marked the initial phase, followed by the implementation of convergence guidelines in 2019 and integration into the National Medium-Term Development Plan (RPJMN) in 2020.

A significant institutional shift occurred in 2021 with the enactment of Presidential Regulation No. 72/2021, which formalized coordination mechanisms by establishing Stunting Reduction Acceleration Teams (TPPS) at all administrative levels. Subsequent developments included the expansion of national monitoring systems, such as the Indonesian Nutrition Status Survey (SSGI) and national dashboards, indicating emphasis on data-driven policy implementation.

The evolution of these policies reflects a shift in strategic emphasis over time. Early instruments (2018-2019) focused primarily on establishing a national strategic umbrella and cross-sectoral convergence guidelines. The 2020 integration into the RPJMN elevated stunting reduction to a formal development target with

Table 1. Timeline of stunting reduction policies in Indonesia.

Year	Policy/Regulation	Institution	Key Focus
2018	National Strategy for the Acceleration of Stunting Prevention	Vice President Secretariat	Initial national framework for stunting reduction
2019	Convergence Action Guidelines	Ministry of National Development Planning (Bappenas)	Integration of multisectoral interventions at district level
2020	National Medium-Term Development Plan (RPJMN 2020-2024)	Government of Indonesia	Inclusion of stunting reduction as national priority
2021	Presidential Regulation No. 72/2021	President of Indonesia	Strengthening institutional coordination (TPPS)
2022	National Nutrition Status Survey (SSGI)	Ministry of Health	Strengthening monitoring and evaluation
2023-2024	Dashboard monitoring and evaluation systems	National Population and Family Planning Board (BKKBN) / Ministry of Health	Data-driven policy implementation
2025	National Medium-Term Development Plan (RPJMN) 2025-2029	Government of Indonesia	Continuation and scaling of stunting reduction programs

Source: Compiled by authors from official government policy documents [8, 15-21].

Table 2. Strategic pillars for stunting reduction.

Pillar	Description
Leadership and commitment	Strengthening political commitment and governance
Behavior change communication	Improving community awareness and practices
Convergence of interventions	Integration of nutrition-specific and sensitive programs
Food and nutrition security	Ensuring access to adequate and nutritious food
Monitoring and evaluation	Strengthening data systems and program tracking

Source: Adapted from the National Strategy for the Acceleration of Stunting Prevention and Presidential Regulation No. 72/2021 [8, 9].

budgetary implications. The 2021 Presidential Regulation marked a turning point toward institutionalized, multi-level governance by mandating TPPS at the national, provincial, district, and village levels. Subsequent developments (2022-2025) emphasized strengthening the evidence base through expanded national surveys and digital monitoring dashboards, indicating a progressive shift from policy formulation toward institutionalization and data-driven implementation.

3.2. Strategic Framework for Stunting Reduction

Building on the evolving policy landscape, the national stunting reduction strategy is structured around five key pillars, reflecting a multisectoral and integrated approach and is based on the National Strategy for the Acceleration of Stunting Prevention and its integration into Presidential Regulation No. 72 of 2021 [8, 9] (Table **2**). These pillars include leadership and commitment, behavior change communication, program convergence, food and nutrition security, and monitoring and evaluation. This framework reinforces institutional coordination and highlights the integration of nutrition-specific and nutrition-sensitive interventions across sectors and administrative levels.

Under Presidential Regulation No. 72/2021, national-level institutions (including Bappenas, the Ministry of Health, and BKKBN) are responsible for setting strategic direction, technical guidelines, and monitoring targets, while provincial and district governments are mandated to translate these into local action plans, allocate regional budgets, and coordinate the convergence of nutrition-specific and nutrition-sensitive interventions at the community level through local TPPS. This decentralized division of responsibility means that implementation outcomes are highly dependent on subnational institutional capacity and resource availability, which vary considerably across regions, as described further below.

3.3. Trends in Stunting Prevalence and Regional Disparities

Data on national and provincial stunting prevalence were derived from national surveys, global estimates, and relevant literature (Table **3**) [6, 7, 18-20, 22]. In parallel with policy and program developments, national stunting prevalence in Indonesia declined substantially from 30.8% in 2018 to 19.8% in 2024. This reduction coincided with sustained efforts to implement multisectoral strategies and scale up nutrition interventions at the national level, although a direct causal contribution cannot be established from document analysis alone.

These estimates were drawn from different national survey instruments across years (2018: Basic Health Research/Riskesdas; 2019, 2021-2022: Indonesian Nutrition Status Survey/SSGI; 2023-2024: Indonesian Health Survey/SKI), which differ in sampling frame and data collection protocol; while these represent the most methodologically comparable national estimates available,

Table 3. Trends in stunting prevalence by selected provinces, Indonesia (2018-2024).

Province	2018	2019	2021	2022	2023	2024
Indonesia (National)	30.8	27.7	24.4	21.6	21.5	19.8
Nusa Tenggara Timur	42.7	43.8	37.8	35.3	37.9	37.0
Papua	33.1	29.4	29.5	34.6	28.6	24.7
Papua Barat	27.8	24.6	26.2	30.0	24.8	24.6
Jawa Barat	31.1	26.2	24.5	20.2	21.7	15.9
Jawa Tengah	31.3	27.7	20.9	20.8	20.7	17.1
Sumatera Utara	32.4	30.1	25.8	21.1	18.9	22.0
DKI Jakarta	17.6	20.0	16.8	14.8	17.6	17.3
Bali	21.9	14.4	10.9	8.0	7.2	8.7

Values are presented as percentages (%)
Source: Riskesdas 2018 [7], SSGBI 2019 [22], SSGI 2021–2022 [18, 19], SKI 2023 [20], and SSGI 2024 [6].

Table 4. Coverage of nutrition-specific interventions.

Indicator	2018	2019	2020	2021	2022	2023	2024	Target 2024
Iron-folic acid supplementation (pregnant women)	86.8%	96%	89%	89.7%	88.9%	80.2%	NA	90%
Adolescent iron supplementation	48.5%	46.6%	39.5%	31.3%	46.8%	37.5%	NA	58%
Exclusive breastfeeding	65.3%	67.7%	66.1%	69.7%	66.3%	67.2%	66.4%	80%
Growth monitoring	68.4%	73.9%	61.3%	69%	74.0%	77.6%	NA	90%
Immunization coverage	58%	84%	84%	84%	94.9%	74.8%	NA	90%

NA: Data not available.
Source: Compiled from national survey reports and nutrition monitoring data [6, 23, 24].

differences in survey design may affect strict year-to-year comparability, and the observed trend should be interpreted as broadly indicative rather than a fully continuous series. Table **3** presents the national estimate alongside eight purposively selected provinces representing the highest-prevalence regions (Nusa Tenggara Timur, Papua, Papua Barat), high-population regions with fluctuating trends (Jawa Barat, Jawa Tengah, Sumatera Utara), and consistently lower-prevalence regions (DKI Jakarta, Bali), to illustrate the range of regional disparity; full 38-province data are provided in **Appendix B**.

However, important regional disparities persisted across provinces. Provinces in eastern Indonesia, such as Nusa Tenggara Timur and Papua, consistently reported higher prevalence rates than the national average. In contrast, provinces such as Bali and DKI Jakarta showed substantially lower prevalence levels throughout the observation period. In addition, several provinces, including those in highly populated regions such as Jawa Barat and Jawa Tengah, demonstrated fluctuating trends rather than consistent declines. These findings indicate uneven progress in stunting reduction across regions (Table **3**).

3.4. Achievement of Nutrition-specific Interventions

Data on the performance of nutrition-specific interventions were derived from national surveys and program reports, including global and national nutrition monitoring data (Table **4**) [6, 23, 24]. Alongside improvements in prevalence, the performance of nutrition-specific interventions showed mixed progress and generally fell short of national targets. Coverage of iron-folic acid supplementation among pregnant women declined to 80.2% in 2023, remaining below the 90% target. Similarly, adolescent iron supplementation remained below target levels (58% target) and demonstrated fluctuations over time.

Exclusive breastfeeding coverage remained relatively stable but did not reach the national target of 80%. Meanwhile, growth monitoring and nutritional supplementation programs for children under five showed moderate improvements but were not consistently sustained across years. Immunization coverage reached a peak of 94.9% in 2022 before declining in subsequent periods. In addition, several indicators were not consistently reported across years, indicating gaps in monitoring and data availability.

3.5. Achievement of Nutrition-sensitive Interventions

Data on the achievement of nutrition-sensitive interventions were primarily obtained from the First Semester 2023 Report on the Acceleration of Stunting Reduction [24], with limited availability across indicators (Table **5**). Beyond nutrition-specific programs, nutrition-sensitive interventions showed substantial gaps relative to national targets at the aggregate level; province-level variation for these indicators could not be assessed due to the absence of disaggregated data. Coverage of post-partum family planning services remained below target

Table 5. Coverage of nutrition-sensitive interventions.

Indicator	2020	2021	2022	2023	2024	Target 2024
Postpartum family planning	NA	NA	52.6%	NA	NA	70%
Open Defecation Free (ODF) villages	NA	NA	NA	59.7%	NA	90%
Access to safe drinking water	NA	NA	93.0%	NA	NA	100%
Access to safe, proper sanitation	NA	NA	NA	92.3%	NA	90%
Households receiving assistance	NA	NA	NA	42.7%	NA	90%
Community knowledge of stunting	NA	NA	74%	NA	NA	70%

NA: Data not available.
Data were not available prior to 2020.
Source: Secretariat for the Acceleration of Stunting Reduction, BKKBN (First Semester Report 2023) [24].

Table 6. Synthesis of stunting reduction programs.

Theme	Key Findings	Identified Issues	Implications
Coordination and institutional arrangements	Establishment of TPPS across administrative levels	Limited coordination capacity and cross-sectoral integration	Strengthen coordination mechanisms
Local government capacity	Variation in technical capacity across regions	Limited human resources and expertise	Expand capacity-building initiatives
Program financing	Budget allocation varies across regions	Uneven and suboptimal funding distribution	Improve resource allocation efficiency
Data utilization	Multiple data systems in use (SSGI, e-PPGBM)	Fragmented and underutilized data	Integrate and optimize data systems
Integrated interventions	Implementation of convergence actions initiated	Uneven implementation across regions	Strengthen evaluation and feedback systems
Behavior change and community engagement	Nutrition awareness programs implemented	Limited impact on behavior change	Enhance community engagement strategies
Monitoring and evaluation	Monitoring systems established	Inconsistent implementation and limited local involvement	Promote participatory monitoring approaches

Source: Synthesized by authors based on document analysis of national policy documents, program reports, and evaluation studies [8, 9, 15, 23-27].

(52.6% *vs* 70%), and the proportion of villages achieving Open Defecation Free status was also substantially lower than the target (59.7% *vs* 90%).

Access to safe drinking water approached the target (93.0% *vs* 100%), while sanitation coverage exceeded the target in some cases (92.3% *vs.* 90%). However, coverage of households at risk of stunting receiving assistance remained low (42.7% *vs.* 90%). Several indicators lacked complete data across years, with multiple “not available” entries, suggesting inconsistencies in monitoring and reporting systems. Notably, community knowledge and awareness of stunting exceeded the target (74.0% *vs* 70%).

3.6. Challenges in Program Implementation

Despite these efforts, multiple challenges in program implementation were identified through thematic synthesis based on document analysis of national policy documents, program reports, evaluation studies, and relevant literature on stunting reduction in Indonesia (Table **6**) [8, 9, 15, 23-27]. While institutional coordination has improved through the establishment of TPPS, gaps remain in local government capacity, particularly in technical expertise and resource availability.

Program financing was found to be uneven and suboptimal across regions. In addition, data systems remain fragmented and underutilized for planning and decision-making at the local level. The implementation of integrated nutrition interventions has not been uniformly applied, and behavior change efforts remain insufficient in several communities.

Furthermore, monitoring and evaluation systems are not consistently implemented, with limited involvement of local stakeholders and communities, which may affect the overall effectiveness and sustainability of stunting reduction programs.

4. DISCUSSION

This study provides a comprehensive analysis of policy development, program implementation, and outcomes of stunting reduction efforts in Indonesia over the period 2018-2024. The findings demonstrate substantial progress, as reflected in the decline in national stunting prevalence from 30.8% in 2018 to 19.8% in 2024. This trend is consistent with national and global reports indicating gradual improvements in child nutrition outcomes, although significant challenges remain in achieving equitable distribution across regions [6, 28].

The progressive strengthening of national policies is associated with this achievement, although a direct causal contribution cannot be established from document analysis alone. The establishment of a multisectoral framework, particularly through the National Strategy for the Acceleration of Stunting Prevention and the enactment of Presidential Regulation No. 72/2021, was accompanied by formal mechanisms intended to reinforce coordination across sectors and administrative levels [8, 9]. These findings are consistent with global evidence emphasizing the importance of multisectoral approaches and integrated governance in addressing complex nutrition challenges in low- and middle-income countries [29, 30]. This highlights the importance of strengthening cross-sectoral coordination and institutional arrangements to ensure effective implementation.

Indonesia's experience reflects broader patterns observed in other multisectoral stunting reduction efforts across low- and middle-income countries. In Peru, sustained political commitment, institutionalized multisectoral coordination through the CRECER strategy, and results-based budgeting were key enablers of stunting reduction from 31.3% in 2000 to 13.1% in 2016 [31]. Similarly, Vietnam's experience decentralizing nutrition planning to the provincial level showed that local planning capacity improved gradually with targeted support from technical advisors, but progress remained constrained by centralized approval processes, a shortfall in local funding, and persistent capacity gaps at the subnational level [32].

Comparable findings from district-level multisectoral nutrition governance in Tanzania indicate that inadequate funding, limited local capacity, and weak cross-sectoral financing mechanisms remain common barriers even where coordination structures are formally established [33]. These cross-country parallels suggest that Indonesia's implementation challenges, particularly the gap between institutional design at the national level and functional capacity at the subnational level, are not unique, but reflect structural issues common to decentralized nutrition governance in LMICs, underscoring the importance of pairing regulatory reform with sustained investment in subnational technical and financial capacity.

Despite these improvements, substantial regional disparities persist. Provinces in eastern Indonesia, such as Nusa Tenggara Timur and Papua, continue to exhibit higher stunting prevalence compared to the national average, while provinces such as Bali and DKI Jakarta demonstrate consistently lower rates. This pattern reflects underlying inequalities in socioeconomic conditions, access to health services, and infrastructure, as reported in previous studies on the determinants of stunting in Indonesia [12, 34]. These findings also reflect variations in local government capacity, which influence the effectiveness of program implementation across regions.

Several interrelated factors likely drive this variation in implementation capacity across provinces. Such factors include differences in the number and technical competence of public health and nutrition personnel, wide variation in geographic scale and accessibility (particularly in remote and archipelagic regions such as Nusa Tenggara Timur and Papua), gaps in regional fiscal capacity and budget allocation for stunting programs, and varying degrees of commitment among local government leaders. Document analysis in this study could not fully disaggregate the contributions of each factor, highlighting the need for further province-level research using standardized capacity indicators.

The findings also highlight a gap between improvements in outcomes and the performance of program implementation. Several nutrition-specific interventions, including iron-folic acid supplementation and maternal nutrition programs, remain below national targets. Evidence suggests that adherence to iron supplementation during pregnancy is critical for improving maternal health and reducing the risk of adverse birth outcomes associated with stunting [35, 36]. In addition, disparities in program financing and resource allocation may contribute to uneven implementation across regions. Furthermore, challenges in specific maternal care practices, including early initiation and continuation of exclusive breastfeeding, consistent iron-folic acid intake, and regular attendance at antenatal care, continue to limit the effectiveness of early-life nutrition interventions [25, 26]. These findings highlight the importance of strengthening behavior change communication and community engagement strategies to improve intervention uptake.

Similarly, nutrition-sensitive interventions demonstrate uneven performance across regions. Coverage of postpartum family planning and sanitation programs remains below target levels, reflecting broader structural and behavioral barriers. Previous studies have shown that sociocultural factors, limited access to services, and health system constraints contribute to low uptake of postpartum family planning interventions [37, 38].

The thematic analysis further reveals systemic challenges that may explain these implementation gaps. Limited local government capacity, fragmented data systems, and uneven financing mechanisms constrain the effectiveness of stunting reduction programs. These findings are consistent with previous studies in Indonesia that highlight the importance of local-level capacity, coordination, and governance in determining program success [39-41]. Fragmentation of data systems and limited utilization of real-time data may further constrain evidence-based planning and decision-making at the local level. As identified through thematic synthesis (Table **6**), coordination challenges persist despite the formal establishment of TPPS structures mandated by Presidential Regulations No. 72/2021. While this regulation assigns coordination responsibilities across administrative levels, programme reports indicate that cross-sectoral coordination mechanisms are not yet consistently operationalized at the district and village levels, reflecting a gap between regulatory design and functional implementation. This is consistent with broader evidence that stunting-policy implementation is

constrained not only by technical program design but also by financing limitations, weak inter-organizational coordination, cultural barriers, and insufficient multisectoral collaboration [10].

These findings underscore the importance of strengthening implementation at the subnational level. Strengthening decentralized implementation, particularly through targeted capacity building in high-burden provinces, improving the interoperability of data systems, and adopting performance-based financing mechanisms, may enhance program effectiveness. In addition, strengthening community engagement and behavior change strategies is essential, as community-level factors play a critical role in shaping nutrition outcomes [42, 43]. Strengthening monitoring and evaluation systems, including greater involvement of local stakeholders, is essential to improve program effectiveness.

This study has several strengths, including the integration of policy analysis, national survey data, and program performance indicators over an extended period. However, several limitations should be acknowledged. First, the study relies on secondary data, and several indicators contain missing observations, which may limit the completeness of this analysis; variations in data availability across indicators may also limit comparability over time. Second, because the included documents were drawn primarily from official government repositories, the review may be subject to source-selection and government-reporting bias, whereby underperforming programmes or less favorable results are less likely to be documented or publicly disclosed. Third, the national prevalence series combines data from different survey instruments with differing sampling frames and indicator definitions (described in the Results section), which may affect strict longitudinal comparability. Fourth, this study did not incorporate primary stakeholders' perspectives (*e.g.*, interviews with programme implementers or beneficiaries), which may have provided richer insight into the mechanisms underlying implementation gaps identified through document analysis alone. Fifth, thematic coding involved an element of interpretative judgement; as coding was performed by a single author rather than independently by multiple coders, inter-coder reliability could not be assessed, and some degree of interpretive bias cannot be excluded. Finally, as a desk review, this study design can identify temporal associations between policy development and outcome trends but cannot establish causal policy effects; all interpretive statements in this manuscript have accordingly been framed in associative rather than causal terms.

Overall, the findings from this study highlight several key challenges in stunting reduction efforts in Indonesia, including coordination across sectors, variations in local government capacity, limitations in program financing, disjointed data systems, and gaps in behavior change and monitoring mechanisms. These interconnected factors underscore the importance of strengthening integrated and context-specific approaches to accelerate stunting reduction.

CONCLUSION

In conclusion, Indonesia has demonstrated substantial progress in reducing stunting prevalence through strengthened policy frameworks (2018-2025) and expanded nutrition interventions (2018-2024). The integration of national strategies into institutional and programmatic frameworks coincided with improvements in monitoring systems and intervention coverage, although this study's desk-review design cannot establish a causal policy effect. Significant regional disparities and implementation challenges persist, particularly in resource-constrained provinces with weaker local capacities. Building stronger capacity for implementation at the district and provincial levels, improving data integration, enhancing monitoring systems, and expanding community-based approaches are essential to sustain progress and achieve equitable stunting-reduction outcomes nationwide.

AUTHORS' CONTRIBUTIONS

The authors confirm their contributions to the paper as follows: M.P. developed the main idea of the review and prepared the preliminary draft of the manuscript. S.H. contributed to the identification and evaluation of relevant literature and assisted in developing the content of the review. R.W.B. participated in the interpretation of the reviewed studies and provided substantial revisions to improve the scientific quality of the manuscript. T.S. oversaw the overall preparation of the review, provided academic input, and approved the final version for publication. All authors reviewed and agreed on the final manuscript.

LIST OF ABBREVIATIONS

Bappenas	=	Ministry of National Development Planning
BKKBN	=	National Population and Family Planning Board (BKKBN)
RPJMN	=	National Medium-Term Development Plan
SKI	=	Indonesian Health Survey
SSGI	=	Indonesian Nutrition Status Survey
TPPS	=	Stunting Reduction Acceleration Teams

CONSENT FOR PUBLICATION

Not applicable.

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None.

CONFLICT OF INTEREST

The authors declared no conflict of interest, financial or otherwise.

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Appendix A. List of included dosuments (Primary source documents).

S. No.	Document Title	Issuing Institution	Year	Document Type
1	National Strategy for the Acceleration of Stunting Prevention	Vice President Secretariat	2019	National Strategy
2	Convergence Action Guidelines	Ministry of National Development Planning (Bappenas)	2019	Guideline
3	National Medium-Term Development Plan (RPJMN 2020-2024)	Government of Indonesia	2020	Presidential Regulation
4	Presidential Regulation No. 72 of 2021 on the Acceleration of Stunting Reduction	President of Republic Indonesia	2021	Presdidential Regulation
5	National Population and Family Planning Board Regulation No. 12 of 2021	National Population and Family Planning Board (BKKBN)	2021	Institutional Regulation
6	Indonesian Nutrition Status Survey (SSGi) 2021	Ministry of Health	2021	National Survey Report
7	Indonesian Nutrition Status Survey (SSGI) 2022	Ministry of Health	2022	National Survey Report
8	Indonesian Health Survey (SKI) 2023	Ministry of Health	2024	National Survey Report
9	Indonesian Nutrition Status Survey (SSGI) 2024 in Figures	Ministry of Health	2025	National Survey Report
10	Report on the Implementation of Accelerating Stunting Reduction, First Semester 2023	Secretariat for the Acceleration of Stunting Reduction, BKKBN	2023	Programme Report
11	National Medium-Term Development Plan (RPJMN 2025-2029)	Ministry of National Development Planning (Bappenas)	2025	Presidential Regulation
12	Guidelines for the Implementation of Integrated Stunting Reduction Intervention at the District/Municipal Level	Ministry of National Development Planning (Bappenas)	2018	Guideline

Note: The table below lists the complete set of 12 official policy dosuments and government reports analyzed as primary source documents in this structured desk review.

Appendix B. Full provincial stunting prevalence data, Indonesia (2018-2024).

Province	Year (%)					
	2018	2019	2021	2022	2023	2024
Aceh	37,1	34,2	33,2	31,2	29,4	28,6
Sumatera Utara	32,4	30,1	25,8	21,1	18,9	22,0
Sumatera Barat	29,9	27,5	23,3	25,2	23,7	24,9
Riau	27,4	24,0	22,3	17,0	13,6	20,1
Jambi	30,2	21,0	22,4	18,0	13,5	17,1
Sumatera Selatan	31,6	29,0	24,8	18,6	20,3	15,9
Bengkulu	28,0	26,9	22,1	19,8	20,2	18,8
Lampung	27,3	26,3	18,5	15,2	14,9	15,9
Bangka Belitung	23,4	19,9	18,6	18,5	20,7	20,1
Kepulauan Riau	23,6	16,8	17,6	15,4	16,8	15,0
DKI Jakarta	17,6	20,0	16,8	14,8	17,6	17,3
Jawa Barat	31,1	26,2	24,5	20,2	21,7	15,9
Jawa Tengah	31,3	27,7	20,9	20,8	20,7	17,1
DI Yogyakarta	21,4	21,0	17,3	16,4	18,0	17,4
Jawa Timur	32,8	26,9	23,5	19,2	17,6	14,7
Banten	26,6	24,1	24,5	20,0	23,9	21,1
Bali	21,9	14,4	10,9	8,0	7,2	8,7
Nusa Tenggara Barat	33,5	37,9	31,4	32,7	24,5	29,8
Nusa Tenggara Timur	42,7	43,8	37,8	35,3	37,9	37,0
Kalimantan Barat	33,3	31,5	29,8	27,8	24,5	26,8
Kalimantan Tengah	34,0	32,3	27,4	26,9	23,5	22,1
Kalimantan Selatan	33,1	31,8	30,0	24,6	24,7	22,9
Kalimantan Timur	29,2	28,1	22,8	23,9	22,8	22,2

(Appendix B) contd.....

Province	Year (%)					
	2018	2019	2021	2022	2023	2024
Kalimantan Utara	26,9	26,3	27,5	22,1	17,4	17,6
Sulawesi Utara	25,5	21,2	21,6	20,5	21,3	20,8
Sulawesi Tengah	32,3	31,3	29,7	28,2	27,2	26,1
Sulawesi Selatan	35,7	30,6	27,4	27,2	27,4	23,3
Sulawesi Tenggara	28,7	31,4	30,2	27,7	30,0	26,1
Gorontalo	32,5	34,9	29,0	23,8	26,8	23,8
Sulawesi Barat	41,6	40,4	33,8	35,0	30,4	35,4
Maluku	34,0	30,4	28,7	26,1	28,4	28,4
Maluku Utara	31,4	29,1	27,5	26,1	23,6	23,2
Papua	33,1	29,4	29,5	34,6	28,6	24,7
Papua Barat	27,8	24,6	26,2	30,0	24,8	24,6
Papua Selatan	NA	NA	NA	NA	25,1	25,8
Papua Tengah	NA	NA	NA	NA	39,3	32,5
Papua Pegunungan	NA	NA	NA	NA	37,3	40,0
Papua Barat Daya	NA	NA	NA	NA	31,0	30,5
Nasional	30,8	27,7	24,4	21,6	21,5	19,8

Note: Provinces formed after 2022 (Papua Selatan, Papua Tegah, Papua Pegunungan, and Papua Barat Daya) may not have data prior to their formulation, mark these as “NA (province note yet formed)” where applicable.

Sources: In 2018, the Basic Health Research Survey (*Riskesdas*); in 2019, the Indonesian Toddler Nutrition Status Study (*SSGBI*); in 2021, the Indonesian Nutrition Status Survey (*SSGI*); in 2022, the Indonesian Nutrition Status Survey (*SSGI*); in 2023, the Indonesia Health Survey (*SKI*); and in 2024 the Indonesian Nutrition Status Survey (*SSGI*).

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