

Business Sector Engagement in Pentahelix Colaboration for Stunting Reduction: A Qualitative Study in Jember Regency

Irma Prasetyowati¹, Farida Wahyu Ningtyias², Leersia Yusi Ratnawati²,
 Candra Bumi¹, Globila Nurika³, Meilinda Alya' Putri Haryanik⁴

¹ Department of Epidemiology, Faculty of Public Health, Universitas Jember, East Java, Indonesia 68124

² Department of Nutrition, Faculty of Public Health, Universitas Jember, East Java, Indonesia 68124

³ Department of Enviromental Health, Faculty of Public Health, Universitas Jember, East Java, Indonesia 68124

⁴ Master of Field Epidemiologi Training Program Student, Faculty of Public Health, Universitas Airlangga, Surabaya, East Java, Indonesia 60115

✉Email: irma_prasetyowati.fkm@unej.ac.id

ABSTRACT

Background: Stunting is a persistent public health issue in Indonesia, with long-term effects on children's physical and cognitive development. In 2023, Jember Regency recorded the highest stunting prevalence in East Java at 29.7%. **Objective:** To examine the role of the business sector in efforts to reduce stunting in Jember within the Pentahelix collaboration model. **Methods:** This study employed a qualitative case study design using in-depth interviews and focus group discussions. Data were analyzed using Buse, Mays, and Walt's policy implementation framework (Buse, Mays, & Walt, 2012), which focuses on context, content, process, and actors. This framework was chosen because it provides a comprehensive approach to understanding how policies are implemented through multi-actor collaboration, making it relevant for analyzing the Pentahelix model in stunting reduction efforts. **Results:** Findings indicate that businesses contribute significantly through Corporate Social Responsibility (CSR) initiatives, including Posyandu activities, nutrition support, and economic empowerment programs for mothers in areas with high rates of stunting. Coordination with health offices is based on local data, ensuring interventions are targeted and effective. The CSR Forum serves as a platform for aligning business efforts with public health goals. Businesses are also engaged in monitoring and evaluation through regular reporting from health facilities. **Conclusion:** Active engagement of the business sector through CSR initiatives strengthens stunting reduction efforts by supporting government and community programs. Integrating business participation into health promotion practice enhances sustainability, coordination, and long-term impact on child health and nutrition.

Keywords: Bussiness Involvement, CSR, Pentahelix, Stunting

INTRODUCTION

Stunting remains a significant public health challenge in Indonesia, reflecting chronic nutritional deficiencies that hinder children's physical and cognitive growth (Leroy and Frongillo, 2019). It is influenced by multiple determinants, including maternal and child malnutrition, limited access to nutritious food, and socioeconomic disparities (Kementrian Kesehatan RI, 2022). The consequences are far-reaching—affecting health, educational achievement, and future productivity, while increasing the risk of

non-communicable diseases in adulthood (Soliman *et al.*, 2021; Rini and Lestari, 2023).

Indonesia had a prevalence of 21.6% in 2022, still above the WHO tolerance threshold of 20%. In East Java Province, the stunting prevalence in 2022 was recorded at 19.2%, but Jember Regency had the highest prevalence in the province, at 29.7% in 2023 (Kemenkes, 2023). This highlights the urgent need for innovative, multi-sector strategies to accelerate stunting reduction at the local level.



The Pentahelix collaboration model—involving government, academia, the community, media, and businesses—offers a comprehensive approach to addressing complex health issues (Calzada, 2020). Within this model, the business sector contributes not only through financial support but also by influencing community behaviors and health environments via Corporate Social Responsibility (CSR) programs. This connection situates business engagement as part of a broader behavioral and social approach to improving population health.

However, existing studies on stunting prevention in Indonesia have largely focused on government-led initiatives, health system interventions, and community empowerment programs. Few have examined how and to what extent business actors participate in stunting reduction, or the mechanisms through which CSR initiatives contribute to behavior change and improved nutritional outcomes. This lack of empirical evidence limits understanding of how private-sector engagement can be effectively integrated into health promotion practice. This study aims to analyze the role of the business sector in reducing stunting in Jember Regency through the Pentahelix collaboration model, by identifying forms of engagement, enabling and constraining factors, and their implications for strengthening health promotion and intersectoral collaboration.

METHODS

This study employed a qualitative approach with a case study design to gain an in-depth understanding of how stunting reduction policies are implemented through multi-sector collaboration within the Pentahelix framework. The qualitative approach was chosen because it enables the exploration of complex social interactions, contextual influences, and stakeholder perceptions that cannot be fully captured through quantitative methods. This approach aligns with the research objective to analyze the role and dynamics of business sector involvement in stunting reduction by allowing for a rich and detailed understanding of real-world policy processes.

The research focused on the implementation process of stunting reduction policies in Jember Regency,

particularly emphasizing the involvement of the business sector within the Pentahelix collaboration model. The analysis was guided by policy implementation theory, encompassing four dimensions: content, context, process, and actors involved in the policy's execution.

Informants were selected purposively to represent diverse perspectives and ensure the comprehensiveness of findings. Key informants included the coordinator or secretary of the Jember Regency Stunting Reduction Acceleration Team and business representatives involved in stunting-related initiatives. Additional informants were drawn from community beneficiaries of the policy to capture their experiences and perceptions of program implementation.

Data collection involved multiple techniques to ensure data depth and triangulation. Field observations were conducted to directly observe implementation practices and stakeholder interactions. Focus group discussions (FGDs) explored shared perceptions and experiences among stakeholders, while in-depth interviews provided detailed insights into challenges, opportunities, and dynamics in the policy implementation process.

Data analysis was conducted through open coding and thematic analysis. The coding process combined deductive coding, based on the theoretical dimensions of policy implementation, and inductive coding, to capture emerging themes from the field. Coding was performed manually by two independent coders to enhance analytical rigor. To ensure reliability and validity, the researchers applied triangulation across data sources (government, business, and community) and methods (observation, FGD, and interview). Coding results were discussed and reconciled through consensus, and peer debriefing was conducted to minimize researcher bias.

This research passed ethical review by the Ethics Committee of the Faculty of Public Health, University of Jember, with approval number 528/KEPK/FKM-UNEJ/VII/2024, issued on July 9, 2024.

RESULTS AND DISCUSSION

The business actors involved in this study consisted of companies engaged in the retail trade sector. The following section presents the results and discussion regarding the role of business actors in stunting management in Jember Regency.

Actors

a. Role

Business actors, as part of the pentahelix, contribute to stunting management by providing human resources, funding, training, and cross-sector collaboration. These contributions represent manageability resources, enabling communities to better handle economic barriers, access health services, and participate in empowerment programs. This aligns with the following statement from an informant:

"Basically, we will definitely implement all kinds of collaboration that will enable us to reduce stunting rates, like that, with any agency. We also work with integrated health posts (Posyandu), community health centers (Puskesmas), and the agencies themselves."

In efforts to address stunting in Jember Regency, businesses, as one component of the pentahelix model, play a crucial role through cross-sector collaboration. Interviews revealed that partnerships among businesses, relevant government agencies, *Posyandu*, and community health centers are actively being implemented to reduce stunting prevalence.

Businesses contribute through resource mobilization, Corporate Social Responsibility (CSR) programs, and strategic partnerships that support nutritional provision and community health facilities. This collaboration fosters synergy between the public and private sectors, encouraging businesses to extend their role beyond economic activities to include social initiatives that promote public health (Ibrahim, Amirudin and Kustiman, 2023).

The involvement of business actors strengthens governmental and institutional efforts by enabling more comprehensive and coordinated interventions. As a result, stunting reduction programs in Jember Regency can be implemented more

effectively. CSR initiatives—such as support for *Posyandu* operations, nutrition supplementation programs, and logistical assistance—enhance community capacity to address daily challenges related to child nutrition. Existing literature supports that integrating CSR within multisectoral frameworks improves program sustainability and expands access to essential health and nutrition services.

Policy Content

a. Decision-Making

Business actors make decisions in coordination with the local health office to ensure that Corporate Social Responsibility (CSR) programs target high-priority stunting areas. This information-sharing process enhances comprehensibility by clarifying stunting-related issues through data-driven insights. Through this communication, business actors gain access to data identifying areas with high stunting prevalence that require prioritized intervention. As a result, decisions are informed by a clear understanding of local conditions and the most urgent needs within these communities. As one informant stated:

"The decision is usually made after communicating with the health office, which then provides data on areas with high stunting rates. We discuss the steps that need to be taken to ensure that interventions are targeted."

Through a collaborative approach between businesses and the health office, CSR initiatives can be better tailored—for instance, by providing supplementary feeding programs, nutrition education, WASH improvements, or capacity building for *Posyandu* cadres—so that private-sector interventions complement government efforts and empower communities. The findings of this study are consistent with recent research emphasizing that private-sector engagement has a tangible impact on reducing stunting prevalence when CSR programs are integrated into multisectoral, government-led frameworks supported by clear monitoring and accountability mechanisms (Korir *et al.*, 2025; Sharn *et al.*, 2025). Systematic reviews in the past five years also highlight that CSR contributions are most effective when positioned within collaborative

governance structures, rather than fragmented philanthropic activities, as integration enhances sustainability and amplifies the impact of both nutrition-specific and nutrition-sensitive interventions (Warren *et al.*, 2021; Ramlan *et al.*, 2025).

Empirical evidence from Indonesia further supports this view: evaluations of local CSR programs coordinated with district health authorities have demonstrated improvements in child nutrition indicators and access to preventive services, though their long-term success depends on program design, monitoring capacity, and mutual commitment between corporations and government actors (Tasmat *et al.*, 2023; Sari and Setyaning, 2024). Therefore, collaboration between businesses and the health office remains crucial to transforming CSR from short-term assistance into a strategic, evidence-based partnership for sustainable stunting reduction.

b. Benefits

CSR activities, including logistical support for Posyandu and economic training for mothers, directly strengthen manageability by improving family economic welfare and access to health services. Business actors play a role in providing logistical support and resources for programs aimed at improving public health, especially at the family level. Furthermore, they participate in economic training that helps mothers improve family welfare, which in turn contributes to improving children's nutritional status. As one informant stated:

"For example, in several places, there are training programs for mothers in areas with stunting to improve their economic well-being, because stunting is implemented from upstream to downstream."

In this context, business actors demonstrate a supportive role in promoting community health and empowering women within families, particularly by facilitating better nutrition and healthier lifestyles. Several informants noted that CSR initiatives focusing on nutrition education and income-generating activities for mothers have helped raise awareness and improve household food

practices. However, the extent of this contribution should be viewed as complementary to, rather than a replacement for, government and community-led stunting prevention efforts, aligning with previous studies emphasizing the need for coordinated multisectoral action.

c. Program Implementation

The implementation of stunting policies by business actors, as part of the pentahelix, is achieved through integrated health service posts (Posyandu) activities conducted by these actors. The following is a statement from an informant regarding the implementation of stunting management policies by business actors:

"...but what is implemented simultaneously is the Posyandu in front of the store. However, there is definitely collaboration with other relevant parties, for example, in some places there is training for mothers in areas where stunting occurs to improve their economic well-being, because stunting is implemented from upstream to downstream."

This statement illustrates the role of business actors in implementing stunting management policies as part of the pentahelix. One concrete contribution of business actors is through Posyandu activities held in front of stores, which are carried out simultaneously to support access to health services for the local community. Furthermore, business actors also collaborate with other parties, such as the government or regional organizations, in implementing broader programs. A concrete example of this effort is the training held for mothers in areas affected by stunting, which aims to improve family economic well-being. This program stems from the realization that stunting management should not only focus on child health but also encompass family economic improvement as part of a "downstream" effort. By improving the welfare of mothers through skills training, businesses help create long-term solutions that support improved nutrition and family quality of life, ultimately reducing stunting rates (Rahmawati, Rahfiludin and Kartasurya, 2023). The implementation of this policy demonstrates that businesses play a role not only in providing health

facilities but also in empowering communities to break the cycle of poverty, one of the root causes of stunting. These efforts not only address child nutrition but also support family livelihood—again bolstering manageability by reducing structural barriers such as poverty

d. Resources

Business actors in Jember Regency provide essential resources for stunting management through human resources and funding. Involved human resources, such as the public relations team and staff, play a role in disseminating information, building effective communication, and organizing activities that support the stunting reduction program. Furthermore, businesses also provide funding through special budget allocations, such as CSR funds, which are used to support health and community empowerment programs. As one informant stated:

"For human resources, we involve our public relations team and staff to support this activity. In addition, we also allocate CSR funds to support the stunting reduction program."

With trained human resources and clearly allocated funding, businesses can make effective contributions to stunting reduction programs, helping accelerate implementation and increase the program's reach in the community. Human resources (PR teams and staff) and CSR funding help disseminate information, organize activities, and support community programs. These resources reinforce both manageability (tools and support) and comprehensibility (clear communication channels).

Policy Context

a. Actor Strategies

Business actors, acting as a pentahelix, implement several strategies to address stunting in Jember Regency. The following is a statement from an informant regarding the approach implemented in stunting management and reduction programs:

"Collaboration with relevant agencies or the nearest community health center (Puskesmas). Essentially, we want to find a starting point where stunting rates are high. Then, we visit

the community health center (Puskesmas), invite them to collaborate, find out what they do frequently, and then we can join in."

Based on interviews, it was found that the strategy implemented by business actors in implementing stunting prevention efforts in Jember Regency is to collaborate with agencies or the nearest community health center (Puskesmas) to carry out interventions or activities aimed at addressing stunting. Community health centers (Puskesmas) play a strategic role in stunting management due to their direct connection to the community and the local data they possess. Collaboration between Puskesmas, relevant agencies, and business actors can strengthen the effectiveness of existing programs. The business actors in this study, namely the food industry, can collaborate with Puskesmas to provide nutritious food needed for nutrition counseling programs. By combining resources and expertise from various parties, it is hoped that stunting management efforts can be more comprehensive and have a greater positive impact, accelerating stunting reduction in areas in need (Zuhri, Pramitasari and Rozikin, 2024). This strategy supports meaningfulness, ensuring interventions feel relevant, collective, and purposeful for both the community and the implementing partners.

b. Compliance & Responsiveness

Business actors in Jember Regency demonstrated compliance and responsiveness to stunting management by actively engaging sponsors to support needs on the ground. They responded to community needs by involving various parties, including sponsors, to fund and ensure the success of programs aimed at reducing stunting. This responsiveness ensures that stunting management can run smoothly, with sufficient support from various sectors. As one informant stated:

"And this year, in 2024, we've already invited sponsors to collaborate. So, we're encouraging more parties to be aware and collaborate."

By involving sponsors, business actors not only meet resource needs but also ensure the sustainability of stunting management programs through broader

collaboration between the private and public sectors. The involvement of sponsors within CSR frameworks strengthens program continuity and demonstrates business responsiveness to community needs—enhancing the meaningfulness of stakeholder engagement.

c. Challenges and Obstacles

Several business actors encountered challenges and obstacles in implementing stunting management efforts in Jember Regency. The following is an informant's statement regarding these challenges and obstacles:

"Essentially, there are no obstacles, because we only limit communication to the community health center (Puskesmas). Furthermore, the Puskesmas and Posyandu (Integrated Health Post) have their own data, so communication is a one-stop shop, and on average, there are no obstacles, so everything is safe."

Based on the interviews, communication and coordination between the Puskesmas and Posyandu in stunting management efforts are running smoothly, without significant obstacles. The statement regarding "one-stop shop" reflects the efficiency in the flow of information, with the Puskesmas serving as the main coordination center, facilitating communication with the Posyandu. From the perspective of business actors involved in stunting management, such as providers of nutritious food or medical equipment, this smooth communication offers advantages in terms of ease of product or service distribution. With effective communication and minimal bureaucracy, business actors can focus more on their contributions without facing obstacles in accessing information or inter-agency coordination. However, even if there are no perceived obstacles currently, there are potential challenges in the future, such as limited access to local markets in remote areas or dependence on changing government policies. Business actors need to consider the sustainability of this collaboration to ensure the support provided remains effective in the long term (Sari and Setyaning, 2024). Although communication with Puskesmas is smooth, potential future barriers may arise.

Current effective coordination increases comprehensibility, ensuring stakeholders understand their roles and can communicate efficiently.

Policy Process

a. Action Program

Business actors in Jember Regency implement significant action programs to address stunting, such as monthly CSR activities and economic training for communities in areas with a high stunting prevalence. Through routine CSR activities, business actors are committed to supporting health programs and community empowerment on an ongoing basis. Furthermore, they also provide economic training for mothers in stunting areas to improve their family financial management skills, which ultimately contributes to improving child nutrition. As one informant explained:

"So, from the upstream, we improve the economy so it can lift and improve, ultimately improving infant health outcomes."

Through this program, business actors not only provide financial support but also empower communities with skills that can improve their quality of life, while contributing to stunting reduction. This represents manageability, enabling families to better cope with economic constraints linked to stunting.

b. Communication

Business actors in Jember Regency maintain effective communication with the health office and community health centers to ensure the successful implementation of the stunting program. This direct communication enables business actors to access up-to-date information on on-the-ground conditions, including areas with high stunting rates that require additional attention. This also makes it easier for them to develop strategies and provide targeted support. As one informant explained:

"We do communicate directly with the sub-district and the government agencies, but usually we just go to the government agencies and explain that we have this program this month, and where in this area it will be held."

Through this communication, business actors can ensure that every step taken in the stunting reduction program aligns with needs on the ground, expediting response, and maximizing the impact of each intervention (Goi *et al.*, 2024; Purnaningsih *et al.*, 2025). This strengthens comprehensibility, as actors receive updated, accurate information essential for program effectiveness.

c. Bureaucratic Structure

Business actors in Jember Regency play a role in the bureaucratic structure for handling stunting through the CSR Forum, which serves as a means of coordination between business actors, the government, and the community in addressing the stunting problem. This forum enables business actors to align their CSR programs with government policies and initiatives aimed at reducing stunting, thereby ensuring the effective utilization of available resources. As one informant explained:

"For business actors, the bureaucracy actually already has CSR and meetings."

Through the CSR Forum, business actors not only contribute funds but also play an active role in formulating strategic steps that can accelerate the reduction of stunting rates in areas requiring intervention. The CSR Forum acts as a coordination platform aligning private-sector initiatives with government priorities. This institutional structure supports meaningfulness, as collaboration becomes part of a shared mission rather than fragmented efforts.

d. Reporting

Reporting activities by business actors, based on interviews, are conducted verbally and are evidence-based, consisting of presentations provided by the community health center (Puskesmas) to business actors. This is consistent with the following interview with an informant:

"...Usually there is a presentation from the team; so far, it's usually the Puskesmas that provides the presentations to us..."

This interview revealed that the Puskesmas team usually provides presentations related to stunting

management to other parties, including the business actors involved. This statement indicates that business actors obtain information on stunting developments and conditions through reports provided directly by the Puskesmas. In the context of stunting management, sound and structured reporting is crucial for business actors to understand the needs and areas where they can contribute, whether in the form of logistical support, nutritional provision, or medical equipment. The clarity of information provided by the Community Health Center (Puskesmas) enables businesses to adapt their strategies to be more effective and targeted in supporting stunting management programs. Furthermore, this reporting system also serves as an evaluation tool, allowing businesses to assess the impact of their contributions and ensure that the products or services provided meet the needs of the community. Therefore, regular presentations and reports from the Puskesmas are key to maintaining good coordination between the government and businesses in efforts to address stunting. This aligns with research in Guatemala, which found that providing feedback to stakeholders involved in stunting management can improve the delivery of community-based nutrition programs and reduce stunting among children in rural Guatemala (Juarez *et al.*, 2021; Sitaresmi *et al.*, 2023; Kinayung, Hasanbasri and Padmawati, 2024; Pardamean *et al.*, 2024). These reporting practices reinforce comprehensibility, clarifying program outcomes and informing CSR adjustments.

e. Monitoring and Evaluation

Monitoring and evaluation activities conducted by business actors include data on stunting rates, whether they are increasing or decreasing. This data serves as a basis for providing support to stunting management programs by business actors. The following is a statement from an informant regarding the monitoring and evaluation conducted:

"My company has contributed to several Posyandu (integrated health service post) visits in this area. The initial stunting rate is for a certain number of children. Then, after several Posyandu visits, whether there is a decrease or an increase, the main thing is to report

it. That's usually more or less how the monitoring works."

This statement highlights the company's role as a business actor involved in stunting management through support for Posyandu activities. In this case, the company contributes meaningfully to the implementation of Posyandu programs in selected areas. The outcomes of these activities are monitored through reports containing baseline data on the number of stunted children and subsequent changes observed after several Posyandu visits. Such monitoring and evaluation processes are essential for business actors, as they provide insights into the effectiveness of their contributions to stunting reduction. Evaluation results—whether indicating a decrease or increase in the number of stunted children—serve as key indicators of intervention impact. Regular monitoring reports also allow businesses to determine whether their support has met its intended objectives or whether strategic adjustments are required. This mechanism ensures that business contributions to stunting management programs remain targeted and sustainable while strengthening collaboration between companies, community health centers (Puskesmas), and Posyandu in reducing stunting (Ruel-Bergeron *et al.*, 2019; Balqis *et al.*, 2024; Februhartanty *et al.*, 2024; Indonesia, 2024).

However, it is important to note several limitations of this analysis. The findings are based on a limited geographic scope, focusing only on areas where CSR programs were actively implemented, which may not represent conditions in other regions. In addition, the study relies heavily on self-reported CSR data and documentation provided by companies, which may introduce reporting bias or inconsistencies in monitoring indicators. Furthermore, the sample of participating businesses may not fully capture the diversity of corporate engagement models across sectors. These limitations suggest that while the results provide valuable insights into the potential role of business actors, broader and longitudinal studies are needed to generalize the findings and assess long-term impacts on stunting reduction. M&E strengthens comprehensibility (clear feedback loops) and meaningfulness (stakeholders see the value and impact of their involvement).

CONCLUSION

This study shows that CSR participation helps reduce stunting in Jember by supporting Posyandu services, nutrition education, and women's empowerment, complementing government and community efforts within the Pentahelix framework. When aligned with local health priorities, CSR improves program reach and sustainability. From a salutogenic policy lens, CSR should shift from short-term assistance toward strengthening family resilience (GRR) by enhancing economic stability, service access, and community capacity. Maternal training within CSR should use a salutogenic empowerment approach that builds skills, problem-solving ability, and self-efficacy. Although limited to areas with active CSR and company-reported data, stronger mechanisms for CSR integration, monitoring, and coordination with health offices are needed to ensure targeted, sustainable, and resilience-oriented contributions to stunting reduction.

REFERENCES

- Balqis, B. *et al.* (2024) 'Development of Cross-Sector Collaboration Indicators for Accelerating the Reduction of Stunting in South Sulawesi, Indonesia', *Journal of Public Health and Pharmacy*, pp. 225-237. doi: 10.56338/jphp.v4i3.5924.
- Calzada, I. (2020) 'Democratising smart cities? Penta-helix multistakeholder social innovation framework', *Smart Cities*, 3(4), pp. 1145-1173. doi: 10.3390/smartcities3040057.
- Februhartanty, J. *et al.* (2024) 'Journal of Health Education', 9(2), pp. 113-122.
- Goi, M. *et al.* (2024) 'Cross-Sector Collaboration in Addressing Stunting in Indonesia', 16(6), pp. 1424-1430.
- Ibrahim, I. S., Amirudin, A. and Kustiman, E. (2023) 'Representations of Stunting in Indonesian National Newspaper: Positioning a Culture-Oriented Approach', *Mediator: Jurnal Komunikasi*, 16(2), pp. 290-302. doi: 10.29313/mediator.v16i2.2922.
- Indonesia, U. (2024) 'Formative Evaluation of The National Strategy to Accelerate Stunting Prevention', *Kementerian PPN/Bappenas*.
- Juarez, M. *et al.* (2021) 'Community-Based

- Interventions to Reduce Child Stunting in Rural Guatemala: A Quality Improvement Model'. doi: 10.3390/ijerph.
- Kemendes (2023) 'Hasil Survei Status Gizi Indonesia (SSGI) 2022', Kemendes, pp. 1-150.
- Kemendes Kesehatan RI (2022) *Faktor-faktor Penyebab Kejadian Stunting Pada Balita, Direktorat Jenderal Pelayanan Kesehatan*.
- Kinayung, U. P., Hasanbasri, M. and Padmawati, R. S. (2024) 'Cross-Sectoral Support in Stunting Prevention through Integrated Health Posts (Posyandu) in Yogyakarta City', *Al Gizzai: Public Health Nutrition Journal*.
- Korir, J. et al. (2025) 'Mapping the Drivers of Multisectoral Nutrition Governance and Its Link to Nutrition Outcomes in Kenya : A Qualitative Inquiry', pp. 1-20.
- Leroy, J. L. and Frongillo, E. A. (2019) 'Perspective: what does stunting really mean? A critical review of the evidence', *Advances in Nutrition*, 10(2), pp. 196-204.
- Pardamean, B. et al. (2024) 'Monitoring and evaluation of childhood stunting reduction program based on fish supplement product in North Sumatera , Indonesia Statistics Indonesia : Indonesian Central Bureau of Statistics', *Scientific Reports*, pp. 1-10. doi: 10.1038/s41598-024-61462-z.
- Purnaningsih, N. et al. (2025) 'Open Access Optimizing Local Resources for Stunting Prevention and Community Health Promotion in Indonesia : A Mixed-Methods Study on Collaborative Communication and Extension'. doi: 10.56338/mppki.v8i8.7520.
- Rahmawati, L., Rahfiludin, M. Z. and Kartasurya, M. I. (2023) 'Posyandu Financing at The District Stunting Management Locus: A Qualitative Study', *Journal of Nursing Science Update (JNSU)*, 11(1), pp. 80-89. doi: 10.21776/ub.jik.2023.011.01.10.
- Ramlan, P. et al. (2025) 'Impact of Private Sector Involvement in Collaborative Governance to Address Stunting : A Systematic Bibliometric Review', pp. 46-62. doi: 10.18502/kss.v10i16.19148.
- Rini, T. and Lestari, P. (2023) 'Stunting in Indonesia: Understanding The Roots of The Problem and Solutions', *Field of People's Welfare Info Singkat*, XV(14).
- Ruel-Bergeron, J. C. et al. (2019) 'Monitoring and evaluation design of Malawi's Right Foods at the Right Time nutrition program', *Evaluation and Program Planning*, 73, pp. 1-9. doi: 10.1016/j.evalprogplan.2018.11.001.
- Sari, N. and Setyaning, A. N. A. (2024) 'Analysis Of The Success Of Corporate Social Responsibility Activities At PT Ecogreen Analysis Of The Success Of Corporate Social Responsibility Activities At PT Ecogreen Oleochemicals Batam', *Jurnal Ekonomi*, 13. doi: 10.54209/ekonomi.v13i03.
- Sharn, A. R. et al. (2025) 'Multi-faceted nutritional interventions are imperative to reduction of stunting among children in low- and middle-income countries', (September). doi: 10.3389/fnut.2025.1479850.
- Sitairesmi, M. N. et al. (2023) 'Engaging stakeholders to strengthen the local actions for stunting prevention and control in Lombok Barat', 6(1), pp. 52-57. doi: 10.22146/jcoemph.v6i1.160.
- Soliman, A. et al. (2021) 'Early and long-term consequences of nutritional stunting: From childhood to adulthood', *Acta Biomedica*, 92(1), pp. 1-12. doi: 10.23750/abm.v92i1.11346.
- Tasmat, D. et al. (2023) 'Strategi Percepatan Penurunan Stunting melalui Program CSR PT Pertamina EP Rantau', *Jurnal Penelitian Multidisiplin (ARMADA)*, pp. 946-955.
- Warren, A. M. et al. (2021) 'Advancing knowledge about stakeholder engagement in multisectoral nutrition research', *Global Food Security*, 29(March), p. 100521. doi: 10.1016/j.gfs.2021.100521.
- Zuhri, S., Pramitasari, A. and Rozikin, I. (2024) 'The Role of Actors in Accelerating Stunting Reduction in Indonesia: a Pentahelix Perspective', *Revista de Gestão Social e Ambiental*, 18(4). doi: 10.24857/rgsa.v18n4-069.