Policy Triangle Analysis of Stunting Issues in Urban Areas: A Case Study of Yogyakarta City

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Abstract

Stunting reduction is one of Indonesia's major projects. While one-size-fits-all regulations were no longer promoted, understanding the characteristics of each region imposed a strong policy foundation. Many studies had been conducted in rural areas, but the analysis of urban areas was scarce. A study was conducted in Yogyakarta City to understand the characteristics of stunting intervention, despite the high human development index, education level, and access to health facilities. This made it important to examine the characteristics of stunting reduction efforts, based on the analysis of the contents, contexts, processes, and actors involved, in Yogyakarta City, to help with its ambition for zero stunting. A desk review and focus group discussion were conducted involving four local government staff, consisting of the Regional Planning and Development Agency, Health Office, and Office of Women's Empowerment, Child Protection, and Population Control and Family Planning, which were elaborated with literature following the policy triangle framework. A total of 13 open-access official documents and dashboards were obtained for analysis. Decrees from the local government showed a strong commitment to ending malnutrition. While most intervention packages were similar to those across Indonesia, targeted interventions for specific subjects were needed to support people who were unable to be covered by general services. Furthermore, Yogyakarta City has smaller open spaces than other districts in the province, a contradictory low nutrition awareness despite high school participation, and other factors were cross-linked with its culture in the community, implementer, to the authority levels. Stunting reduction programs were multisectoral, involving not only government offices but also non-government, mass media, community, private sectors, and academia. This study is expected to provide lessons learned for decision-makers, private sectors, academia, and public health practitioners to implement good collaboration in stunting reduction efforts.

Keywords: *collaboration; health policy; public health nutrition; program challenges; stunting*

INTRODUCTION

Stunting poses a global threat, affecting 149.2 million children in 2020 (UNICEF/WHO/World Bank, 2021). This condition, characterized by short stature, is closely linked to a weakened immune system and impaired cognitive function resulting from inadequate nutrition during the first 1000 days of life. According to the Global Nutrition Reports 2022, 74 out of 194 countries have made progress in addressing stunting, while 28 countries show no improvement, and 39 lack data on stunting reduction efforts (Global Nutrition Reports, 2022). Among the countries making progress, Indonesia stands out for its consistent decline in stunting prevalence, dropping from 36.8% in 2007 (The National Institute of Health Research and Development, 2008) to 24.4% in 2021 (Ministry of Health of Indonesia, 2021). Despite this positive trend, the government aims to further reduce stunting by 14% in 2024 (Ministry of Health of Indonesia, 2020), aligning with the World Health Assembly's target of 14.7% by 2025 (UNICEF, 2022). Moreover, certain provinces, like Yogyakarta, aspire to achieve zero stunting, given that their current prevalence (11% in 2021) is already below the national target.

The Indonesian government's strong commitment to addressing malnutrition is evident through its long-term agendas (Mahmudiono, 2016; Rokx et al., 2018; SUN Movement, 2018). Since 2018, the government has intensified efforts to reduce stunting, recognizing its complex causes and significant negative impacts. As part of this commitment, the government has progressively expanded its focus on stunting reduction, extending from 100 districts in 2018 to 514 districts in 2022 (Ministry of National Development Planning of Indonesia, 2021a, 2021b). This expansion signifies increased budget allocation and collaborative activities for targeted programs for stunted children. These programs encompass both nutrition-specific and sensitive interventions (Hudoyo, 2018; The National Team for the Acceleration of Poverty Reduction, 2017).

Considerable research has been conducted to investigate the determinants of stunting, and various strategies to address this issue have been explored. However, there is a notable scarcity of research focusing on stunting in urban areas of Indonesia. Furthermore, the Indonesian Government recognizes the significance of the local context in the development of nutrition programs and policies. This acknowledgment implies that each local authority has the autonomy to independently formulate annual work plans, aligning with national regulations, to address stunting issues (Abimbola et al., 2019; Helmyati et al., 2022; Parkhurst, 2017). Studies conducted in Bandung and Makassar Cities have produced slightly different recommendations. The findings suggest a need to strengthen program planning in one case and enhance community inclusion in the other (Essa et al., 2021; Putri & Rahman, 2023).

The WHO categorizes stunting as a multifaceted problem with causes operating at three levels: individual, household, and community. This breakdown is crucial for comprehensively examining the issue from the perspectives of context, causes, and consequences (WHO, 2018). In support of this perspective, UNICEF emphasizes the significance of norms, resources, and governance as the enabling system for families, mothers, and children to attain optimal nutrition (UNICEF, 2021). The foundations laid by the WHO and UNICEF serve as supplements to the policy triangle framework utilized in this study. The Policy Triangle, a paradigm proposed by Walt & Gilson (1994) for policy analysis, incorporates the roles of actors, content, context, and the process of policy implementation. By applying this framework, we can delve into the complexity of the stunting issue, gaining insights into the current situation and discerning which aspects of the paradigm may or may not function as intended.

This study concentrates on efforts to reduce stunting in Yogyakarta City, identified as one of the stunting focus areas along with four other districts in Yogyakarta Province. Yogyakarta City is designated as a focus area not due to its high prevalence but because of the government's commitment to eradicating stunting. The prevalence of stunting in Yogyakarta City was 11.5% in 2020, already below the national average.
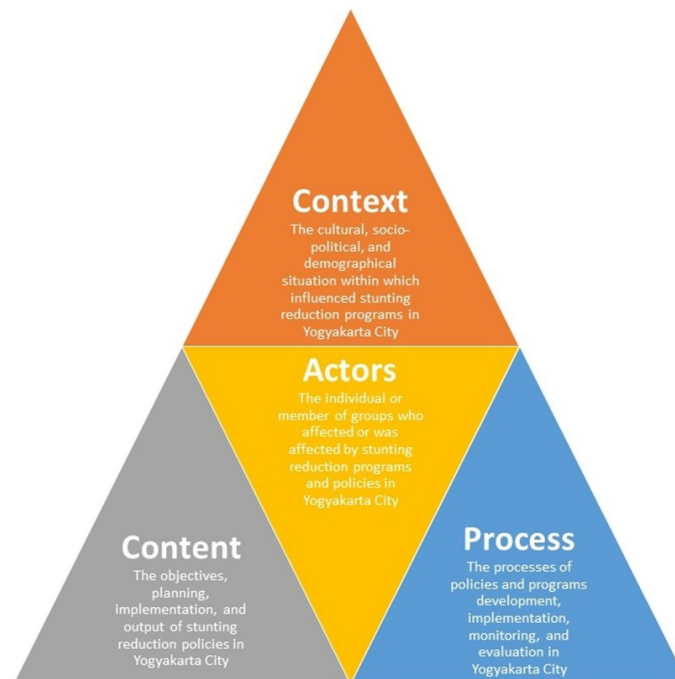
Figure 1. Policy triangle framework (adapted from Walt & Gilson, 1994)

However, this prevalence has remained constant, without any significant reduction, with figures of 10.2% (2016), 11.1% (2017), 10.5% (2018), and 9.7% (2019) (Department of Health of Yogyakarta City, 2021). These consistent figures may indicate underlying issues that current nutrition-related programs have been unable to address. Reducing the prevalence of stunting in Yogyakarta City is crucial to upholding the rights of the child and diminishing the overall stunting prevalence in Yogyakarta Province, which stood at 16.4% in 2022 (Ministry of Health of Indonesia, 2022).

This case study is particularly intriguing as Yogyakarta Province holds the distinctive designation of a "special area" in Indonesia, enjoying higher autonomy for regional governance. While the positions of its districts may resemble those in other parts of Indonesia, the interplay among the government, community, academia, private sectors, and socio-demographic factors is unique. Consequently, this study endeavors to elucidate the connections among these factors, focusing on Yogyakarta City as the central part of the province. Our objective is to comprehend the relationship between context, content, process, and the involved actors, and to articulate potential strategies for reducing stunting rates in Yogyakarta City.

METHOD

This study was conducted from March to December 2022, with a portion of the data utilized for the analysis of a stunting reduction program, supported by the National Demographic and Family Planning Agency (BKKBN) of Indonesia (Act No. 9/KEP.DALDUK/D2/2022). The approach employed was qualitative and involved two primary activities: a desk review and a focus group discussion. Both of these activities were identified by Tomaszewski et al. (2020) as integral components of data collection methods for conducting case study research.

A desk review was conducted by scrutinizing various documents, including the family data collection for 2021 (Pendataan Keluarga or PK 2021) by BKKBN, routine reports openly accessible from local government offices, and a monitoring dashboard for the 8 convergence actions by the Indonesian Ministry of Internal Affairs. The authors obtained annual reports from the websites of health, food security, education, social,

Table 1. Question for the focus group discussion

Information	Question's example
Content	• How is the situation with stunting reduction programs, whether nutrition-sensitive or specific? • What are the program innovations for stunting reduction efforts in the city?
Context	• How is the situation and distribution of the stunting problem in Yogyakarta city? • What are the strengths and limitations of stunting reduction programs implemented in Yogyakarta city?
Process	• How is the pathway of stunting reduction programs management, from program planning to evaluation?
Actors	• How was your contribution to stunting reduction programs in Yogyakarta city?

women's protection, population control and family planning, and environment offices. Each report from these offices provided insights into the current status of health and non-health programs related to stunting reduction efforts in Yogyakarta City. Following the desk review, data collection continued with a focus group discussion (FGD).

The FGD was conducted remotely due to the COVID-19 pandemic, utilizing a video conference application. Participants included one staff member from the Regional Planning and Development Agency (Badan Perencanaan Daerah or BAPPEDA), two staff members from the District Health Office, and staff members from the Office of Women's Empowerment, Child Protection, and Population Control and Family Planning (Dinas Pemberdayaan Perempuan, Perlindungan Anak, Pengendalian Penduduk, dan Keluarga Berencana or DP3AP2KB) of Yogyakarta City, who were purposively selected. Two trained facilitators led the discussion, adhering to a question guideline to ensure the discussion addressed the study's objectives (see Table 1). The two-hour discussion, recorded both in audio and video formats, was thoroughly reviewed by the authors and the team within a day to ensure no crucial information was overlooked. An enumerator assisted with note-taking and summarized the discussion's results.

The policy triangle (Figure 1) served as the framework for analyzing the collected data and information. This choice was made due to its comprehensive coverage of four primary factors that can potentially impact program implementation, and it is commonly employed in dissecting public health programs (Carey et al., 2016; Mohseni et al., 2019; O'Brien et al., 2020). Thematic analysis was applied to categorize the information within this framework. To ensure the robustness of data analysis, methods, and data sources triangulation was employed, involving information from various sources and utilizing methods of data collection from both discussions and desk reviews (Wray et al., 2007). The analysis of data and information resulted in tables and direct quotations without personal identification. Excerpts will be presented anonymously, revealing only the gender and affiliation of the informants, the date, and details about how the discussion was conducted.

FINDINGS AND DISCUSSION

General situation of stunting in Yogyakarta City

The prevalence of stunting cases in Yogyakarta City was already below the national 2024 target, as indicated by the 2021 routine data report from the local health office. However, there was an increase in the number of cases within 2019-2020, possibly
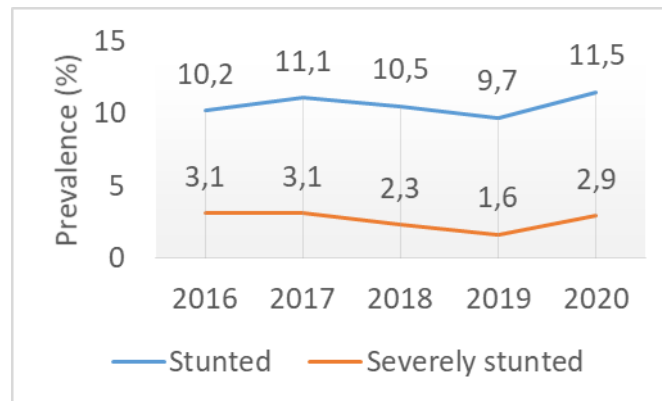
Figure 2. Stunting prevalence in Yogyakarta city, 2016-2020
Source: Department of Health of Yogyakarta City (2021)

attributed to suboptimal monitoring coverage during the community-based activity restrictions imposed during the COVID-19 pandemic (Figure 2).

Maternal and child health and nutrition services were either halted or replaced with home-visit activities (Helmyati et al., 2022; The Government of Yogyakarta City, 2020). Additionally, the number of stunting cases exhibited variation between sub-districts. Three sub-districts were identified to have a stunting prevalence exceeding 24%, while 14 districts were in the safer zone, as illustrated in Figure 3. According to the WHO, a stunting prevalence of 10-19.9% is considered medium, and 20% or more is categorized as high or very high, both constituting public health issues that require attention (De Onis et al., 2019). Although malnutrition is strongly associated with less advantaged households, poverty, and lower education levels (De Silva & Sumarto, 2018; Kustanto, 2021; Ohly et al., 2017), the issue persists in urban areas despite their relatively higher economic and human development index compared to rural areas.

Identified documents

Table 2 presents the documents identified from official websites, categorized into six types, namely health profiles, performance reports, family assessments, dashboard monitoring on the 8 convergence actions, and two Mayor's decrees. The authors exclusively obtained open-access information from the offices' websites and utilized the latest reports published in 2021.

Policy triangle analysis
The content

The concept of stunting reduction activities in Yogyakarta City is primarily driven by top-down programs and policies from the central government. The matter is designated as a major project in the medium-term national development plan. Given that 2024 marks the final governing year of the current authorities, addressing this issue may represent one of the government's most significant missions. Additionally, the discussion emphasized the importance of local authorities in interpreting and adapting the regulations to the local context.

"... health office always carried out all programs mandated by the central government... some innovations are Puskesmas-based but generally they brought up similar spirit..." (female, health staff, online discussion, 07/29/2022)

"... BAPPEDA's work starts after the stunting focus locations are decided... Yogyakarta City has designated as a focus area in 2021, (since then) BAPPEDA already prepared (stunting reduction) strategies but had not (implemented in) all (areas). In 2022, the agency started to follow the 8 strategic frameworks to address stunting..." (female, BAPPEDA, online discussion, 07/29/2022)
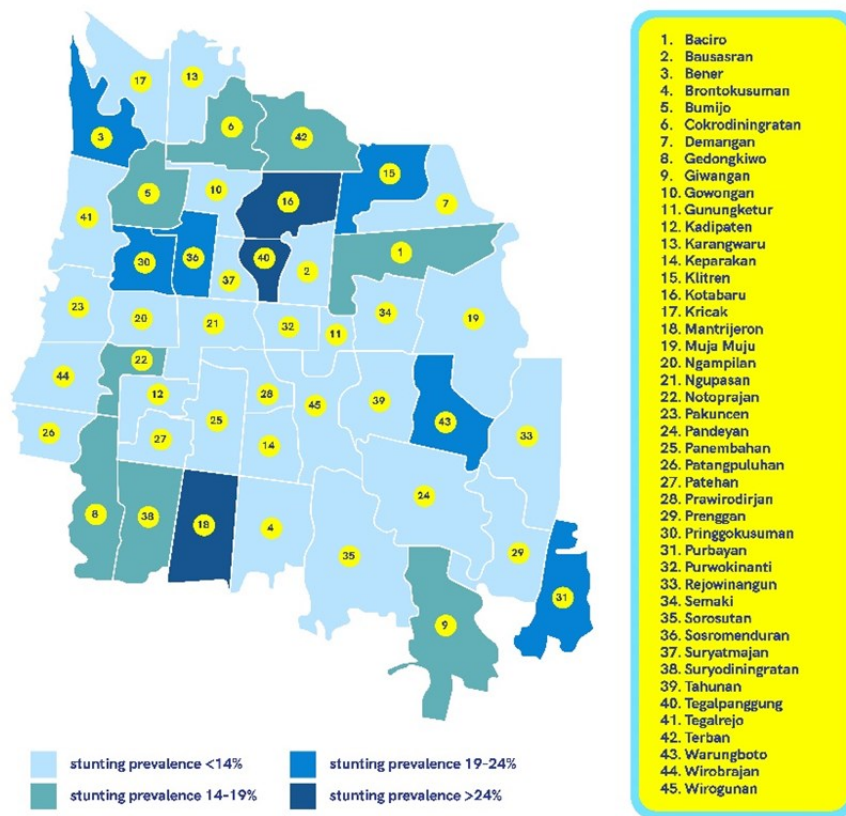
Figure 3. Stunting prevalence in sub-districts of Yogyakarta city, 2021
Source: Department of Health of Yogyakarta City (2021)

In addition to that, the government of Yogyakarta City has committed to targeting the population within the first 8000 days of life for nutrition intervention, as outlined in Mayor's Decree No. 41 Year 2021. This population encompasses individuals from the prenatal stage up to 19 years old. The directive does not explicitly focus on stunting but instead incorporates a broader objective of enhancing the nutrition and health status of mothers, infants, children, and adolescents. The authors perceive this commitment as one of the strengths of Yogyakarta City, considering that not all districts in Indonesia have such regulations in place.

BAPPEDA staff mentioned that the local government took comprehensive considerations into account when deciding on stunting focus areas at the sub-district and village levels. In 2022, Mayor's Decree No. 347 involved 20 villages in Yogyakarta City as stunting focus areas. The Health Office confirmed that being appointed as stunting focus areas entails more budget allocation and additional stunting-targeted activities

following the eight integrated actions. However, the intervention packages for stunting focus areas were all similar, lacking priorities or targeted populations based on the local situation. Stunting program convergences indeed required stakeholders to address multiple aspects affecting children's nutritional status, both directly and indirectly (The National Team for the Acceleration of Poverty Reduction, 2018). Nevertheless, a one-size-fits-all program could inadvertently disadvantage marginalized populations, particularly those with lower access to healthcare in the community (Parkhurst, 2017). It was also confirmed during the discussion that stunting intervention in Yogyakarta City mirrored those in other regions in Indonesia. The authors documented challenges and opportunities for the implementation of stunting reduction efforts in Yogyakarta City, as shown in Table 3.

Reports from government offices, including those for food security and education, indicate that their service coverage has already surpassed the target. In 2021, these

Table 2. Different types of documents identified

Documents	Explanation of the documents
Health profile of Yogyakarta City	The report was annually published by the City's Health Office. It describes the current health situation based on specified indicators in comparison to previous years.
Performance reports	Performance reports were acquired from several offices' websites in Yogyakarta City including 1) Environmental; 2) Education, Youth, and Sports; 3) Social, Employment, and Transmigration; 4) Population and Civil Registration; and 5) Women's Empowerment, Child Protection, Population Control and Family Planning Offices. Each report underlined the current situations, challenges, and achievement evaluation of the government programs.
Family assessment data 2021	The data provided by the National Demography and Family Planning Agency in 2021 informed the current demographic situation including families at risk of stunting
Dashboard monitoring 8 convergence actions	It is provided by the Ministry of Internal Affairs as the communication forum for local stakeholders across Indonesia where they can submit reports on 8 convergence actions on stunting reduction.
Yogyakarta Mayor's Regulation No 41 of 2021 about Regional Action Plans	The regulation prepared future generations through the first 8000 days of life program in 2021-2025.
Yogyakarta Mayor's Regulation No 347 of 2021 about Focus Location for Stunting Reduction in 2022	The decree stipulated 20 sub-districts in Yogyakarta City as stunting focus areas.

offices reported a favorable food security index for Yogyakarta City (81.88), with participation rates for elementary and junior high schools exceeding 100%, on average. Additionally, a report from the Family Planning Agency revealed that over 80% of households in Yogyakarta City had satisfactory access to standardized housing, clean water, and sanitation facilities. The challenge has shifted from increasing program coverage to excelling in service delivery, particularly for individuals with lower access to services and for minority or marginalized communities.

Given the evident prevalence of mal-nutrition, including stunting, in Yogyakarta City, it is suggested that the existing one-size-fits-all programs and policies should be adjusted to cater to the "true" population in need. The Health Office highlighted challenges related to limited coverage areas and nutrition awareness, making it difficult to effectively address stunting despite the high coverage of nutrition-sensitive programs.

"The causes of stunting in Yogyakarta city, according to assessment and validation, are dietary habit and parenting behavior. Approximately 50% of children under five had a healthy weight gain while the rest did not. They were at a

Table 3. Challenges and opportunities of stunting reduction efforts in Yogyakarta City

Challenges	Opportunities
Space limitations made it difficult to intervene the people with low access to sanitation facilities	Collaboration between local government, academia, industries, communities, and mass media actors was highly supported
Non-health stakeholders perceived that stunting was more like a health-sectors problem	High human development index, high school participation rate, high coverage of health insurance, and good access to health facilities
Fragmented data and information systems limited the access to data and comprehensive program monitoring and evaluation	Stunting has become a major project by the central government and many funding opportunities are open for activities related to stunting reduction
High education levels did not mean high nutrition and health awareness many community-based nutrition education proved to fail in improving good nutrition and health behaviors	Innovations have been made by the stakeholders to ensure the implementation of maternal and child nutrition programs.

higher risk of becoming stunted...we tried to educate the parents to bring their children to Puskesmas if weight faltering were likely to happen. but it's difficult because the children still look healthy and agile" (female, health office, online discussion, 07/29/2023)

"...from the nutrition status assessment, 1161 children under five were reported to be stunting, 850 went for re-examination (by the health staff), and only 500 of the children were proved stunted... could be due to measurement error" (female, health office, online discussion, 07/29/2023)

"...families struggle to fulfil proper sanitation and clean water facilities, but (the government agency) could not intervene rapidly due to limited open space..." (female, BAPPEDA, online discussion, 07/29/2023)

The perspective of caregivers indicates that they do not perceive stunting as a problem, displaying a distinct attitude compared to physical diseases. This stands in contrast to a study in Pakistan, which revealed a correlation between maternal awareness of health and nutrition and child nutritional status. The study found that children with poor nutrition were more likely to belong to families with lower awareness (Shahid et al., 2022).

The positioning of Yogyakarta City, along with other districts in Yogyakarta Province, lays the foundation for a robust collaborative environment. As the government has designated stunting as a national priority project, numerous new initiatives from academia, private companies, and community activities have pivoted towards addressing stunting (Central Statistics Bureau of Indonesia, 2021; Permanasari et al., 2020; The Government of South Kalimantan, 2022; Universitas Gadjah Mada, 2022; Wagino, 2022). Additionally, the province hosts numerous higher education institutions that are closely tied to innovations across various domains, contributing to the generation of new knowledge and information. This should serve as a complement to the government's commitment and stunting-related interventions.

The central theme of the discussion on content emphasizes the need to analyze the effectiveness of interventions in light of real-life and locally specific situations. All

efforts should be meticulously managed to avoid redundancy, and outcome indicators must be monitored and evaluated accurately in accordance with the working plan.

The context

The context of stunting-related programs and policies is shaped by the socio-demographic landscape. Administratively, Yogyakarta is labeled as a city, and demographically, it falls under the urban classification (Central Statistic Bureau of Yogyakarta City, 2021). According to Napier (1973), urban areas typically exhibit higher socioeconomic status, a greater commitment to formal education, reduced value orientation, heightened community satisfaction, and lower physical mobility compared to rural areas. This information holds significance for decision-makers in designing programs, including those in public health interventions. However, despite having better access to markets, employment, health, and education facilities, urban areas are not immune to stunting issues, although the proportion is relatively smaller than in rural areas (World Food Programme, 2016). This discrepancy may be a result of complex factors such as population and housing dynamics, migratory patterns, and social dynamics (Beynon et al., 2016) These factors not only influence rural-urban classification but also have broader implications for public health and welfare.

A desk review was conducted on various reports from local government offices, revealing several indicators reflecting a positive situation that could support stunting reduction efforts in the City, albeit intertwined with negative findings to be discussed. Generally, most households in the area have access to a health-supporting environment. Reports indicate that 90.6%, 82.3%, and 95.2% of households reside in houses with roof tiles, ceramic floors, and solid walls, respectively. Furthermore, over 50% of households have access to clean water from taps or wells (BKKBN, 2021). Promising results are also evident in the 2020 Report of the Education and Demographic Affairs, stating that 99% of people possess official residence documents, facilitating their access to social and health insurance provided by the government (Department of Population and Civil Regis-

tration of Yogyakarta City, 2021). Regarding education, the crude participation rate was 110.97% and 123.75% for primary and junior high school, respectively, surpassing provincial and national performances (Department of Education and Sports of Yogyakarta City, 2021). However, a higher education rate does not necessarily equate to a healthy lifestyle, a fact confirmed by local stakeholders.

"...The parents or caregivers already know the (health) consequences... they have good health literacy, I think... however, they still couldn't... they couldn't afford to implement a good young child feeding practice (for example) ..." (female, health staff, online discussion, 07/29/2022)

"... (our agency) encourages the Family Assistance Team (or community health workers specified for programs from demographic and family planning agency) to assist families with stunting risk through DAHSAT (local complementary foods) programs which has been launched... (however, the Family Assistance) Teams have to assist all families and could not fully support only stunting at risk families..." (female, DP3AP2KB, online discussion, 07/29/2023)

However, several indicators demonstrated lower achievement. Two factors, namely septic tank availability and family autonomy, were reported as low in certain areas. In two sub-districts, less than 50% of households had septic tanks, and in four sub-districts, over 30% of households lacked resources to meet basic needs for the next three months (BKKBN, 2021). Additionally, the unemployment rate increased from 4.8% in 2019 to 9.13% in 2021, and water and air quality deteriorated over time. The water quality index dropped from 50 to 38.44 points between 2017 and 2021, while air quality decreased from 89.27 in 2017 to 86.97 in 2020, only to rebound to 90.7 points in 2021, possibly due to social gathering restrictions during the COVID-19 pandemic (Department of Environment of Yogyakarta City, 2021; The Government of Yogyakarta City, 2021). Those mentioned factors were underlying causes of stunting, following the stunting frameworks estab-

lished by the WHO (2018).

In 2021, the population density in this city ranged from 8,445 to 18,841 people per km² (BPS-Statistics of Yogyakarta Municipality, 2022). A member of the health staff supported this finding by adding that the high population density, constrained by land limitations, made it difficult for the government to establish an improved system for clean water, sanitation, and personal hygiene facilities.

"...many families struggle to demonstrate good personal hygiene... sanitation. However, it is also difficult for us to develop the system... (to build access) to clean water, hygiene facilities... because of the limitation of our land..." (female, health staff, online discussion, 07/29/2022)

"...families struggle to fulfil proper sanitation and clean water facilities, but (the government agency) could not intervene rapidly due to limited open space..." (female, BAPPEDA, online discussion, 07/29/2023)

All those factors showed the contextual features of urban areas which predominantly cause the incidence of malnutrition. The local government admitted the lowering of water and air quality due to Coliform, mineral pollution from industrial and household waste, and air pollutants from transportation and carbon emissions, although the aggregated value was acceptable (The Government of Yogyakarta City, 2021). Novianto et al. (2022) suggested that immobility during the COVID-19 pandemic in 2020-2021 led to an improvement in air quality indicators. However, with the lifting of mass restrictions and people returning to pre-pandemic activities(Pasuhuk, 2022; The Government of Yogyakarta City, 2022a, 2022b), the risk of air, water, and soil becoming worse should be taken into account. Sinharoy et al. (2020) emphasized the possibility of a missing link between air pollutants and stunting. This overlooked relationship underscores the importance of nutrition-sensitive aspects, emphasizing that addressing stunting issues requires consideration of multiple dimensions of health, not just a singular focus.

Beyond demographic and environmental perspectives, the context of the stunting reduction program in Yogyakarta City can also be understood through political agendas and cultural lenses. Walt & Gilson (1994) discussed the inclination to promote harmony when translating policies into practices, termed "*ketimuran,*" a virtue observed in the majority of Indonesian communities. This political culture makes it challenging to express direct dissatisfaction while emphasizing the value of general opinions, respect for elders, and the preference for different arguments to be discussed privately. Additionally, the agenda for achieving zero stunting was championed by the provincial government, compelling lower-level authorities to adopt the same ambition. The higher-level government also emphasized "the need for innovation" among implementers, leading to fragmented small-scale programs in various regions. While some programs yielded effective results, not all were able to reach the intended subjects or undergo thorough evaluation.

The findings suggest that authorities are more robust in advocating for stunting reduction programs compared to societies, which are relatively weaker. According to the policy triangle theory, at times, a stronger society is essential to enhance the potency of sustainable actions (Walt & Gilson, 1994). The situation is influenced by power struggles between and within government institutions, insufficient advocacy, and a low capacity to adopt evidence-based policies (Marquardt, 2017). An evidence-based policy goes beyond merely claiming that an intervention is science-based; it is crucially about the ability to translate data-driven knowledge and information into targeted and problem-solving actions. This involves complex processes, mostly influenced by the context in which the policy will be implemented (Parkhurst, 2017).

The processes and actors

The efforts to reduce stunting numbers, encompassing the entire processes and involved actors, are outlined in Presidential Decree No 72, Year 2021, concerning the Acceleration of Stunting Reduction. The national strategies are multisectoral, involving nine ministries and agencies, as well as non-

governmental organizations, communities, private sectors, mass media, and academia. The central government designated the National and Local Agency of Demographic and Family Planning as the program implementer. However, this decision was not without obstacles. Despite the agency having a role in family planning, its position proved not flexible enough to quickly establish effective coordination and collaboration with other government offices. The situation was further complicated by the time required to translate the regulation, during which the Local Family Planning Agency may not yet have aligned perceptions with those of the National Family Planning Agency.

Policy change is closely tied to the actors involved. Walt & Gilson (1994) emphasized that the state and actors influence each other and cannot be separated. The actors primarily focus on the government, with community movements also playing a significant role in strengthening policy implementation. A study from the Philippines highlighted that power, governance, political agenda, and the ability to adapt national policy to the lower levels of government could serve as both barriers and facilitators to effective policy processes (Marquardt, 2017). Other factors, as listed by Browson et al. (2009) and El-Jardali et al. (2019), include the level of financial commitment, sufficient interaction between decision-makers and implementers, among others. Many of these factors explain the challenges faced in Yogyakarta City, exacerbating the effectiveness of stunting reduction policies.

From the FGD, it was identified that the data management system in Yogyakarta City requires improvement. Several challenges were identified, including issues with data transferability, accessibility, safety, and accountability. These challenges are not always clear and sometimes overlap between different offices. Timely data and its analysis are crucial, particularly for local authorities, to promptly assess the situation and provide appropriate recommendations to the communities. The inability to offer accurate information complicates decision-making for authorities trying to understand the current circumstances, potentially causing unnecessary delays in intervening in stunting cases. While local authorities or community leaders

could take direct actions to address the problems, the thinly distributed efforts, coupled with a lack of resources, information, and awareness, can impede the rapid reduction of stunting issues.

Since being designated as the stunting focus area in 2021, Yogyakarta City has enacted two stunting-related regulations: 1) Mayor Regulation Number 41, Year 2021, outlining the Action Planning to Achieve an Excellent Generation by 8000 First Days of Life between 2021-2025, and 2) Mayor's Decree Number 347, Year 2021, specifying the Stipulation of Stunting Focus Location for 2022. These decrees are the outcomes of long-term efforts to combat malnutrition since 2011 during the SUN movement and were reinforced in the 2018 initiative to accelerate nutritional improvement (Ministry of National Development Planning of Indonesia, 2018; Ministry of National Development Planning of Indonesia, 2019; SUN Movement, 2018). Starting in 2021 and 2022, the local government has made more attempts to integrate both nutrition-specific and nutrition-sensitive sectors through advocacy and dialogue.

"... there are 20 main indicators to decide on stunting focus areas... those are stunting prevalence, (maternal and child nutrition) services coverage, information on health, social data... if impoverished communities have received social aid and whether the children are stunted... intervention from education department like parenting.. young child education, intervention from children protection, women empowerment, and family planning, sanitation, ..." (female, BAPPEDA, online discussion, 07/29/2022)

"...DP3AP2KB maps stunting situation using demographic perspective...(as an integral) part of health perspective...some of the indicators are fertile age partners (who are currently pregnant), families with children under five, families with children under two, proper sanitation and drinking water..." (female, DP3AP2KB, online discussion, 07/29/2023)

As a unitarian country, the intended activities for stunting reduction programs are consistent across Indonesia, but the imple-

mentation varies widely (Gurning et al., 2021; Marwiyah et al., 2022; Presidential Decree No. 72 Year 2021; Permanasari et al., 2020; Purwanti et al., 2016; Yasri & Yusran, 2022). Annually, the government conducts a meeting to review the results of the eight convergence actions on stunting reduction efforts and determines the districts that have excelled in managing the programs in each province. The official announcement by the central government is challenging to access, and only a few districts, such as Batam, Banyuasin, and Tanahbumbu, have announced their achievements through local online media (The Government of Banyuasin, 2022; The Government of Kepulauan Riau, 2022; The Government of Tanah Bumbu, 2022). Receiving this award is akin to recognizing the leadership capabilities of local stakeholders in enhancing the quality of programs and reducing stunting prevalence. Discussing the WHO's building blocks, a good health system requires effective leadership and data management; the absence of these factors could be detrimental to efforts to reduce stunting (WHO, 2010).

Assessing the quality of the stunting reduction program implementation in Yogyakarta City proved challenging due to limitations in open-access data sources. However, the participants of the discussion justified the roles of their institutions as follows.

> *"BAPPEDA assists from the initial planning, inter-sectoral... this is following the mandate stipulated in the Presidential Decree No 72 Year 2021....BAPPEDA also collaborated with 5K; Kota, Kampus, Korporasi, Kampung, Komunitas (city or government, campus, industry, community, and village) one event for stunting discussion and twice for monitoring and evaluating (monev) the program implementation..." (female, BAPPEDA, online discussion, 07/29/2022)*

> *"...The health office focused on (nutrition) specific interventions... iron supplementation for female adolescents in junior and senior high schools... hemoglobin examination for freshmen and encourage the parents to check Hb levels periodically... counselling for future brides...antenatal care for pregnant women... vitamin A and iron supplemen-*

tation for pregnant women... immunization for children under five following the government's regulation... growth monitoring... deworming... infant and young child feeding counselling to mothers... (and) the implementation of the regional action plan on the first 8000 days of life"(female, health office, online discussion, 07/29/2022)

> *"...(We) encourage the community health workers (specific under BKKBN is called Tim Pendamping Keluarga or Family Assistance Team) to directly assist higher risk families and through Dapur Sehat Atasi Stunting (Healthy Kitchen to Address Stunting) activities which have been launched... (we have) several limitations such as the need to improve the CHWs' competencies. The CHWs also assist other than high-risk stunting families that it hinders the maximum assistance for the stunting families..." (female, DP3AP2KB, online discussion, 07/29/2022)*

Three institutions have distinct roles within their respective programs aimed at addressing stunting. Some of these roles may seem similar, such as community nutrition services through *Posyandu* and *Puskesmas*, as mentioned by the Health Office and *Dapur Sehat Atasi Stunting* by DP3AP2KB, which focuses on improving children's nutrition intake. Unfortunately, detailed information on the implementation procedures was not available in open-access sources, and monitoring and evaluation data were not accessible at the time of the study. Additionally, each representative emphasized the activities conducted by their respective institutions, highlighting that all activities adhered to the central government's regulations. BAPPEDA played a central role in coordinating nutrition-specific and sensitive interventions, health offices were responsible for implementing and evaluating nutrition-specific interventions, while DP3AP2KB focused more on family planning activities. Several actions, such as the establishment of locally-based complementary foods for stunted children, have been initiated (Suryaningrum et al., 2021). However, challenges like fragmented data management, overlapping programs, and governance, along with diverse demographic and

social situations across provinces, have hindered the implementation of programs as intended (Permanasari et al., 2020).

Strengths and Limitations
This article gives precedence to the situation, barriers, and possible alternatives for stunting reduction efforts in Yogyakarta City based on the discussion of the contents, contexts, processes, and actors involved in stunting intervention. Specifically addressing the city region, the study combines existing information from reports and literature. On the other hand, this article only captures the characteristics of Yogyakarta City and not other cities in Indonesia, which limits the generalizability of the results. Moreover, cities and districts refer to administrative governing systems, and the differences between cities and districts in terms of poverty level, human development index, and education level might not be significant unless they are compared at the extremes. Additionally, the authors acknowledged that only open-access reports from the official website were included, which made it possible to miss other relevant documents that were not open to the public.

CONCLUSION

Despite relatively higher school participation, human development index, standard housing, and access to health facilities in Yogyakarta City, stunting remains evident. The local government has demonstrated commitment by enacting a regulatory framework to support stunting interventions. However, the analysis reveals complex interacting factors that can act as either barriers or facilitators to program effectiveness. Examining the stunting policy in Yogyakarta City through the Policy Triangle Framework, it becomes evident that the local government is making efforts to adopt and implement national regulations while considering the local context. The context of stunting reduction efforts is closely tied to community cultures, demographics, and socioeconomic conditions. Yogyakarta City, as one of the few provinces with the "special region" title in Indonesia, benefits from unique inter-relationships between sectors such as academia, government, private entities, community, and mass media. However, with the rapidly changing policy dynamics, further efforts are needed to enhance collaboration between agencies. The findings underscore the importance of addressing the neglected population that is not covered by general health and nutrition services. There is a pressing need to specify the target population, map the relevant actors, and establish an effective and efficient evidence-based policy process. This research aims to provide valuable insights for policymakers, private sectors, academia, and public health professionals to collaborate effectively in reducing stunting. Further research on the impact of stunting interventions in the region is also warranted.

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