

Stunting Policy from a Social Aspect Perspective: A Systematic Literature Review

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ABSTRACT: Stunting is a global health issue with significant impacts on the growth and development of children, particularly in developing countries. This problem is not only related to nutritional aspects but also involves social factors, which play a crucial role in the success or failure of stunting intervention policies. This study aims to systematically review the literature on stunting policies from a social perspective, covering the period from 1990 to 2024. Through the Systematic Literature Review (SLR) method, 273 relevant articles from various countries were analyzed. The review shows that the trend of stunting policies that consider social aspects has evolved over time, with an increasing focus on policies related to community empowerment and gender-based interventions in recent studies. Attention to the social aspects of stunting policies has grown in recent years, especially during the pandemic, which has also influenced social welfare

KEYWORD : *Stunting, Policies, Social*

I. INTRODUCTION

Stunting is one of the most urgent public health issues (Hasan & Muhammad, 2024; Ali, 2021; Ponum et al., 2020; Fenn et al., 2012) globally, especially in developing countries. This condition occurs when children suffer from chronic malnutrition during pregnancy or early life, which impacts their physical growth and brain development. Children with stunting are significantly shorter than the standard height for their age (De Onis & Branca, 2016; Hermanussen, 2016; Rachmi et al., 2016; WHO, 2006) and often experience delays in motor and cognitive development. This condition is more than just a physical issue; stunting reflects a multidimensional problem involving health (Mzumara et al., 2018), economic, social, and cultural factors. In many cases, stunting results from the complex interplay of poverty, lack of access to healthcare, inadequate parenting practices, and poor living conditions.

In developing countries, the prevalence of stunting tends to be higher than in developed nations. One of the primary causes is limited access to nutritious food, particularly among poor households. Additionally, malnutrition during pregnancy and poor maternal health contribute to the birth of children at risk of stunting. Children born with low birth weight or malnutrition during the first two years of life are at greater risk of stunting. This critical period, known as the "1000-day window of opportunity," is crucial for ensuring children receive adequate nutrition and proper care to grow optimally.

Stunting not only affects individual health but also has widespread impacts on social development, including social justice (Chaufan, 2007), economics, and overall community well-being. Stunted children are more vulnerable to infectious diseases, metabolic disorders, and other health issues. Furthermore, cognitive limitations resulting from stunting hinder their academic achievements, ultimately affecting their job prospects and productivity in adulthood. Studies indicate that individuals who experience stunting during childhood are more likely to earn lower wages and have a lower quality of life compared to those who grow normally.

From an economic perspective, stunting imposes a significant financial burden on both families and nations. Addressing health problems related to stunting, such as recurrent infections or developmental delays, requires considerable financial resources. Additionally, reduced productivity in adulthood impacts household income, perpetuating the cycle of intergenerational poverty. On a broader scale, stunting can slow national economic growth. When a significant portion of the population cannot fully participate in the labor market, national productivity declines, and opportunities to improve overall societal welfare become limited.

Therefore, addressing stunting has become a critical priority in global health policy. International organizations such as the World Health Organization (WHO), UNICEF, and the World Bank have set targets to significantly reduce stunting worldwide in the coming decades. Proposed strategies include improving nutrition interventions, increasing access to maternal and child healthcare services, enhancing sanitation and clean water access, and educating families on the importance of nutrition and health. These collaborative efforts aim to reduce stunting prevalence and ensure children have the opportunity to grow and develop optimally.

However, in practice, addressing stunting is not always straightforward. One of the biggest challenges is the lack of understanding of the social and cultural factors influencing stunting. In some societies, cultural norms or inherited dietary practices often conflict with recommended health practices, including the belief that malnutrition is natural and unavoidable (Chary et al., 2013). For example, in many communities, nutritious foods may not be available or considered suitable for young children, while practices such as early introduction of solid foods or unbalanced diets persist. Without approaches that consider social and cultural contexts, stunting policies may not be effective or sustainable.

Additionally, gender inequality plays a significant role in stunting issues. In many developing countries, women often have limited access to education, employment, and healthcare services. This condition affects mothers' ability to provide adequate nutrition and optimal care for their children. Therefore, empowering women through education, improving access to healthcare services, and providing economic support are key elements in reducing stunting. Policies that focus on women's empowerment not only improve child health but also have long-term benefits for family and community welfare (Thomas & Sridevi, 2022).

Moreover, environmental conditions also contribute to the prevalence of stunting. Limited access to clean water and poor sanitation can increase the risk of infections and diarrhea, which, in turn, worsens children's nutritional status. In some areas, families living in unsanitary environments often face nutritional issues despite the availability of nutritious food. Community-based interventions focusing on improving sanitation and access to clean water are one way to reduce stunting risks in vulnerable environments.

In conclusion, addressing stunting requires a comprehensive and multisectoral approach. Not only are appropriate health and nutrition interventions needed, but policies must also consider the social, economic, and cultural factors affecting children's development. Collaboration between governments, international organizations, and local communities is essential to ensure that interventions are effective and sustainable. By addressing these various dimensions, we can reduce the prevalence of stunting and create a better future for the next generation.

II. METHODOLOGY

The method used in this research is descriptive bibliometric analysis based on publication data related to the topic of Certified Independent Farmers in Sustainable Plantation from 1990 to 2024, with a focus on social aspects and a document limit of 273 publications. Data collection was conducted by retrieving publications indexed in Scopus, which were stored in RIS (Research Information Systems) format. The data were then input into VOSviewer software to visualize bibliometric relationships across three categories: network visualization, which shows the strength of relationships between research terms; overlay visualization, which illustrates the historical trajectory based on publication year; and density visualization, which highlights the concentration or emphasis of particular research clusters. This method aids in mapping the pattern of relationships between studies to identify trends and key areas. Bibliometric analysis, as a statistical method applied to scientific literature, enables accurate mapping of researcher names, productivity, publication years, and research trends. The mapping generated by VOSviewer provides a strong foundation for conducting thorough and in-depth content analysis, allowing researchers to understand the dynamics of research in specific fields, including the context of information architecture trends and other related studies

Network Visualization

The network visualization highlights the complex relationships between various topics related to stunting intervention policies, particularly in social, economic, and nutritional aspects. Each cluster in this visualization groups related keywords, enabling us to identify key themes in the discourse on stunting. This image illustrates that addressing stunting requires a multisectoral approach that includes interventions across various fields, such as government policies (Boccanfuso & Bruce, 2013), food security, household nutritional status, maternal education, and social inequality. Each of these aspects is interrelated, forming a network of factors that influence the prevalence of stunting in a region.

The first cluster, marked in red, shows the interconnection between government policies, food security, and socioeconomic challenges in addressing stunting. Keywords such as government, food security, challenge, and investment are the main focus of this cluster, indicating that government-driven policies are essential in tackling stunting. Governments play a central role in formulating and implementing policies aimed at ensuring the availability and access to nutritious food. The success of these policies heavily depends on the government's commitment to addressing challenges related to poverty and unequal access to food, which are the root causes of stunting in many developing countries. Moreover, effective advocacy is crucial to reducing stunting among children born at an early age (Shepard, 2011).

This red cluster also emphasizes the importance of monitoring and evaluation in stunting intervention policies. Monitoring and evaluating government-launched programs are critical to ensuring the effectiveness and sustainability of such policies. Keywords like sanitation and environment in this cluster highlight that stunting is not only a matter of nutrition but also closely linked to environmental conditions and access to adequate

In the context of addressing stunting, monitoring and evaluation of existing policies are crucial steps to ensure that these policies truly reach the most vulnerable groups, such as poor households and children at risk of malnutrition. Without ongoing monitoring, it is challenging to assess whether the implemented programs are generating positive impacts in the community. Therefore, continuous monitoring must be integrated into every phase of policy implementation to identify and address any emerging challenges or changes in the field in a timely manner.

Careful evaluation is also essential to measure the extent to which these policies have achieved the desired outcomes. Through evaluation, governments and stakeholders can understand whether interventions such as food aid distribution, nutrition education programs, and access to healthcare services have successfully reduced stunting prevalence. If the expected results are not achieved, evaluation enables adjustments to strategies or approaches for better policy outcomes. In this context, data visualization can be a highly effective tool for understanding the situation comprehensively and providing a clear picture of areas requiring further attention. Visualization allows us to see where stunting rates remain high, regions with serious food security issues, or areas still lacking access to healthcare services. This enables policymakers to make more data-driven decisions and target interventions more effectively.

Improving food security is one of the main components of addressing stunting, especially in economically challenged regions. Limited access to nutritious food directly affects children's development, leading to chronic malnutrition. By strengthening food security systems through food aid, household economic empowerment programs, and increasing local food production, policies can significantly impact breaking the cycle of poverty rooted in malnutrition.

In addition, social inequality exacerbates the stunting issue. Children from poor families or those living in remote areas often lack equal access to adequate healthcare services and nutrition education. Effective policies must aim to reduce these inequalities by expanding access to health and nutrition services in the most vulnerable areas. This includes developing healthcare infrastructure in remote areas (Gross et al., 2006) and providing affordable and accessible healthcare services to all segments of society.

Access to quality healthcare is another crucial component in combating stunting. Children who receive regular health check-ups and mothers who receive quality prenatal care have a better chance of growing up healthy and free from malnutrition issues. Improving access to healthcare, particularly in impoverished and rural areas, can result in broader and more equitable impacts of stunting intervention policies across the population.

Through robust monitoring and structured evaluation, we can also ensure that every designed policy is more inclusive. Policies that target not just the general population but also vulnerable groups such as children in conflict zones, families with low education levels, or indigenous communities have a higher chance of success. Inclusivity in policies will ensure that no group is left behind in the government's efforts to reduce stunting.

With all these elements—monitoring, evaluation, data visualization, and a focus on improving food security and healthcare access—stunting intervention policies can become more effective. A data-driven approach allows for more targeted interventions, avoids resource wastage, and ensures that the outcomes align with policy goals. In the long term, policies implemented in this way will not only reduce stunting rates but also create a healthier and more productive generation in the future. Therefore, the sustainability of stunting intervention policies must be a top priority. These policies should continue regardless of changes in leadership or political dynamics, including shifts in political priorities (Taylor et al., 2015). By building policies based on strong data, responsive to field conditions, and inclusive of all societal groups, we can ensure that stunting reduction efforts will continue to have a positive impact in the future.

Overlay Visualization

The overlay visualization shows the shifting focus of research topics related to stunting from 2016 to 2019. Blue represents topics commonly discussed in 2016, while green to yellow indicates more relevant topics in recent years, particularly in 2019. This provides insight into how research in this field has evolved, with a shift from early themes focused on basic nutrition toward more complex issues such as government policy, food security, and social inequality.

One of the main themes emerging in green and yellow is government, food security, and challenge, highlighting the critical role of government in addressing stunting. This theme shows an increasing focus on food security policies, which became more prominent in the literature in 2018 and 2019. It reflects a broader awareness of the need for integrated policy interventions to combat stunting, particularly in ensuring the availability of nutritious food for vulnerable groups.

Keywords such as sanitation, environment, and quality also appear in green-yellow, indicating that sanitation and environmental issues have garnered more attention in recent years. This shift suggests that efforts to address stunting must not only focus on nutrition but also consider environmental factors affecting child health, such as access to clean water and sanitation. The increasing attention underscores the recognition that a healthy environment is crucial for minimizing the risk of stunting, especially in impoverished areas.

Overall, this overlay visualization highlights a significant shift in research focus on stunting over the years. While nutrition and health factors remain central topics, increasing attention is being given to socioeconomic, environmental, and government policy factors. A broader and more multidimensional approach to stunting is reflected in the latest literature, emphasizing the need for cross-sector interventions that encompass food security, education, sanitation, and social inequality. Through this evolving research, policymakers can design more comprehensive solutions to effectively reduce stunting in the future.

Density Visualization

In this visualization, yellow represents the most frequently appearing keywords and is considered central themes, while green to blue indicates less frequently discussed yet still relevant topics. The density map visualization, based on a Scopus dataset covering various health, nutrition, and policy-related topics, highlights several key issues. One prominent topic is the role of government in alleviating malnutrition, with "government" standing out as a dominant keyword. This indicates that government policies play a significant role in addressing nutrition-related issues such as malnutrition, stunting, and unequal access to food. Policies that implement nutrition intervention programs are crucial for addressing these widespread issues, particularly in developing countries.

A focus on maternal and child nutrition is also evident from keywords like "mother," "child stunting," and "maternal education." These terms suggest that maternal nutrition during pregnancy and maternal education significantly affect a child's nutritional status. Studies reviewed in Scopus emphasize the importance of maternal health during pregnancy in preventing stunting and malnutrition in children. The importance of age in nutritional status is indicated by the prominence of the keyword "age" in the visualization. For example, early childhood is a critical period during which malnutrition can have significant effects on both physical and cognitive development.

Food availability and food security are highlighted by keywords like "food" and "food security," which indicate that access to safe and affordable food is a critical issue in nutrition discussions. Many articles in the Scopus dataset discuss food security challenges across various regions, including Sub-Saharan Africa and South Asia. Stunting remains a global issue, as indicated by the frequent appearance of the keyword "child stunting." Stunting is one of the long-term consequences of chronic malnutrition, and various Scopus articles discuss interventions by governments and international organizations to address this problem.

The issue of inequality in nutrition access is reflected in the keyword "inequality," showing that access to adequate nutrition remains unequal, particularly between different socioeconomic groups. This inequality is often linked to poverty, education, and geographic location. Articles in the dataset frequently highlight how these disparities affect child development and maternal health. Environmental impacts on nutrition are represented by the keyword "environment," emphasizing how factors like sanitation, access to clean water, and climate change affect nutritional status. Scopus articles often discuss environmental interventions to improve sanitation as a crucial step toward improving nutrition.

Developing countries, such as "India" and "Indonesia," emerge as examples where nutritional issues remain a major concern. Many studies in Scopus focus on malnutrition in low- and middle-income countries, where large-scale government interventions are essential to improve the situation. Infant and child health is another key area, with "infant" and "young child" appearing in the visualization. These keywords underscore the importance of early life stages in determining nutritional status. Scopus articles emphasize the importance of exclusive breastfeeding and nutritional interventions during early childhood to prevent stunting and malnutrition.

Nutritional changes due to the pandemic, while not explicitly shown in the visualization, are highlighted in some Scopus articles that discuss how the COVID-19 pandemic has affected global nutrition patterns. The pandemic has exacerbated inequalities in access to food and healthcare, making nutrition interventions more critical to prevent long-term effects on vulnerable populations. By combining visualization data and literature from Scopus, it becomes clear that nutritional challenges are highly complex and involve multiple aspects, ranging from government policies and community-based interventions to environmental and socioeconomic impacts.

- [8]. Chaufan, C. (2007). What does justice have to do with it? A bioethical and sociological perspective on the diabetes epidemic. In *Bioethical issues, sociological perspectives* (pp. 269-300). Emerald Group Publishing Limited.
- [9]. Taylor, S. A., Perez-Ferrer, C., Griffiths, A., & Brunner, E. (2015). Scaling up nutrition in fragile and conflict-affected states: the pivotal role of governance. *Social Science & Medicine*, 126, 119-127.
- [10]. Shepard, B. (2011). *Advocacy Strategies for Young People's Sexual and Reproductive Health: Using UN Processes*. *Reproductive Health and Human Rights: The Way Forward*, 110
- [11]. Ali, A. (2021). Current status of malnutrition and stunting in Pakistani children: what needs to be done?. *Journal of the American College of Nutrition*, 40(2), 180-192.
- [12]. Ponum, M., Khan, S., Hasan, O., Mahmood, M. T., Abbas, A., Iftikhar, M., & Arshad, R. (2020). Stunting diagnostic and awareness: Impact assessment study of sociodemographic factors of stunting among school-going children of Pakistan. *Bmc Pediatrics*, 20, 1-9
- [13]. Hasan, D. S., & Muhammad, S. (2024). Exploring Two Years of Stunting Trends: Insights from TidoreKepulauan. *SCIENTIA: Journal of Multi Disciplinary Science*.
- [14]. Fenn, B., Bulti, A. T., Nduna, T., Duffield, A., & Watson, F. (2012). An evaluation of an operations research project to reduce childhood stunting in a food-insecure area in Ethiopia. *Public health nutrition*, 15(9), 1746-1754.
- [15]. De Onis, M., & Branca, F. (2016). Childhood stunting: a global perspective. *Maternal & child nutrition*, 12, 12-26.
- [16]. Hermanussen, M. (2016). Stunted growth. *European Journal of Clinical Nutrition*, 70(6), 647-649.
- [17]. Rachmi, C. N., Agho, K. E., Li, M., & Baur, L. A. (2016). Stunting, underweight and overweight in children aged 2.0–4.9 years in Indonesia: prevalence trends and associated risk factors. *PloS one*, 11(5), e0154756.
- [18]. WHO Multicentre Growth Reference Study Group, & de Onis, M. (2006). WHO Child Growth Standards based on length/height, weight and age. *Acta paediatrica*, 95, 76-85.
- [19]. Mzumara, B., Bwembya, P., Halwiindi, H., Mugode, R., & Banda, J. (2018). Factors associated with stunting among children below five years of age in Zambia: evidence from the 2014 Zambia demographic and health survey. *BMC nutrition*, 4, 1-8.