



Addressing the Issue of Stunting in Papua Province: A Coordinated Effort for Child Well-being

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Abstract. Stunting is a serious health problem among children in Papua Province, Indonesia. This study analyses secondary data on environmental factors, vulnerable family indicators, and stunting prevalence in the region. The main challenges faced are inter-sectoral coordination, budget management, and ineffective monitoring. An integrated and holistic approach is emphasized with cross-sector participation and stakeholder engagement. This study used descriptive qualitative research methods based on the Papua Provincial Government's Stunting Response Report. As a result, strong coordination, knowledge transfer and education at all levels are urgently needed. With improved coordination, budget management, monitoring, and implementation of a holistic approach, the prevalence of stunting can be reduced. Recommendations include improving coordination across sectors, efficient budget allocation, strengthening monitoring, integrating nutrition education, and managing the impact of conflict and natural disasters. Implementation of these recommendations is expected to improve the quality of life of children in Papua Province and reduce the prevalence of stunting.

Keywords: Stunting, Papua Province, Child health, Integrated approach, Vulnerable families, Budget management, Conflict and natural disasters.

1 Introduction

Stunting is generally defined as a condition where a child's height falls below the standard for their age. The assessment of stunting involves measuring a child's height and comparing it to the age-appropriate standard. In Indonesia [1], [2], the prevalence of stunting remains relatively high, particularly in certain regions. Factors contributing to stunting include malnutrition, recurrent infections, poor sanitation, and inadequate healthcare services. Long-term management focuses on improving nutrition, providing nutritious food, and enhancing access to healthcare services [3]. In the short term, interventions such as the provision of nutritional supplements, optimal healthcare, and regular monitoring of a child's growth can yield positive outcomes. The importance of nutritional education programs for pregnant women and community awareness campaigns are crucial components in addressing stunting. Given its complex nature, addressing stunting requires a holistic approach and cross-sectoral collaboration to

achieve meaningful change. In conducting a situation analysis of the accelerated stunting reduction [4] program in Papua Province, Indonesia, the provincial and Regency/city implementation teams have developed a comprehensive picture of the distribution of stunting prevalence [5], [6], [7] within the region. The analysis included an evaluation of several key aspects, including the availability of supporting policies, the allocated budget, and the human resources involved in accelerating stunting reduction. Elements such as the effectiveness of stunting reduction acceleration teams at the provincial, Regency and village levels were also considered. The main challenges identified involved sector coordination [8], [9], inefficient budget management [10], [11] and ineffective monitoring [12], [13]. The existence of policies, budgets, and supporting human resources are the focus in evaluating program implementation. In addition, the availability of accurate and up-to-date data is also a major concern. Two strategic factors supporting stunting in Papua Province are education and environment. A high level of education is vital to prepare for global challenges. In Papua Province in 2021, 12.48% of children aged 7-15 years were out of school, increasing the risk of stunting. Stunting in children under five is likely to continue into adolescence and adulthood if not addressed. This creates a lost generation, threatens the nation, and costs the state up to IDR 300 trillion/year. The 2019 Riskesdas [14] data recorded the prevalence of stunting in Indonesia at 27.67%, and Government of Indonesia targeted a reduction to 14% by 2024 [15]. The challenge of stunting needs to be overcome to ensure a superior and quality generation of Papuans. Environmental health development in Papua involves aspects of drinking water, sanitation, and public places. Although 80.55% of households have latrines, only 56.34% have proper latrines, and 52.22% have proper drinking water sources [16].

The situation analysis of the accelerated stunting reduction program in Papua Province, Indonesia, has identified several gaps that need to be addressed to improve the program. Firstly, there are gaps in inter-sectoral coordination that need further scrutiny. This challenge points to the need for in-depth research to understand the concrete barriers to coordination and integration of existing programs. Second, gaps in budget management are highlighted, suggesting the need for research to investigate the main causes of inefficiencies in fund allocation, including analyses of specific policies or practices that could be improved. Third, ineffectiveness in monitoring and evaluation is a critical focus. Further research could address the extent to which this ineffectiveness is affected by technical, human resources [17], [18] or infrastructure [19], [20] aspects, and how monitoring systems could be improved. Furthermore, the impact of conflict, political instability and natural disasters are relevant gaps that require in-depth research to explore the specific impact of these conditions and find suitable solutions. Data availability and quality is also a major concern, and further research could explore whether there are data shortages or technical barriers that affect accurate data collection and analysis. Through further research on each of these gaps, it is hoped to provide deeper insights to improve the program to accelerate stunting reduction in Papua Province, increase its effectiveness, and reduce its adverse impact on children's health.

This situational analysis study of the accelerated stunting reduction program [2] in Papua Province [21] aims to identify the main challenges and barriers to reducing

stunting prevalence. The focus involved evaluating policies [22], [23], budget allocations [24] and the availability of human resources [17], [18]. It also aims to assess the effectiveness of stunting reduction acceleration teams at different levels of government. By understanding the factors affecting the program, this research aims to develop recommendations for improving coordination, budget allocation, monitoring, and addressing the impacts of conflict and natural disasters in Papua Province. Research on stunting management in Papua Province makes novel contributions by focusing on the unique characteristics of the region, integration of multi-sectoral data, and application of innovative analytical methods. Novelty is also seen in understanding the impact of conflict and natural disasters and evidence-based recommendations. Thus, this research is expected to bring valuable insights to address the prevalence of stunting in Papua Province. Research on addressing stunting in Papua Province faces several limitations. Inadequate data quality, lack of understanding of the local social and cultural context and limited previous literature can affect the depth of analysis. Financial and time constraints also limit the scope of the research and the implementation of recommendations. In addition, lack of stakeholder participation and general limitations in situational analysis added to the complexity of the research. Awareness of these limitations is important for accurate interpretation of results and development of better approaches.

2 Method

A qualitative descriptive approach was adopted, which emphasises the rigour of qualitative approaches yet is reflective and inter-pretative for empirical re-examination. By involving the active participation of participants as important contributors based on the Papua Province Stunting Management Report from the Papua Province Regional Development Planning Agency, and this research illustrates the integration of relevant practical outcomes. Provisions on Population, Sample, Inclusion and exclusion criteria, Data analysis, Ethical test results, Instruments, refer to the Report on Stunting Management in Papua Province. This study uses the report to develop follow-up actions that need to be taken by relevant stakeholders. The approach [25], [26], [27] follows steps involving planning, action, and evaluation, enriching the understanding of the phenomenon under study in a holistic and in-depth manner. Secondary data was collected based on study reports containing literature reviews and related policy searches. The literature analysis covered coordination, budget allocation, monitoring, and addressing the impacts of conflict and natural disasters in Papua Province. Stakeholders and local government organizations were engaged in discussions on stunting prevalence, health services, sanitation, the role of communities, and barriers to addressing stunting.

3 Result and discussion

The prevalence of stunting in Papua Province is 29.5%, 5.1% higher than the national rate, while wasted is 8.8%, 1.7% higher than the national rate, placing Papua in the Chronic-Acute category [16]. Risk factors include low coverage of exclusive breastfeeding, early breastfeeding initiation, and basic immunisation. High proportions of

children under five with ARI, diarrhoea, helminthiasis, and lack of maternal knowledge on parenting exacerbate the condition. Low access to proper sanitation in 57% of households is another factor. In addition, data on women of childbearing age showed crucial issues, including being too young (1.2%), too old (53.8%), too closely spaced (4.9%) and having too many children (24.1%). Asmat and Nduga Regency's are of particular concern. These factors create an urgency to improve pregnancy preparation and support reproductive health programmes and education in Papua Province [16].

The results of the 2021 Family Data Collection in Papua revealed several crucial problems. The rate of out-of-school children aged 7-15 years reached 12.48%, with Yalimo Regency reaching 24.6%. This represents a significant barrier in access to education that requires special efforts. Economics is also an issue, with 21.08% of families not having a family member on a fixed income, especially in Pania Regency where it reaches 76.3%. Housing issues also arise, where 9.66% of households still have dirt floors, with Puncak Regency reaching 62.4%. The issue of dietary diversity is also evident, where more than 21% of households experience this, with Paniai Regency reaching 65.7% [16].

The couples of childbearing age results in Papua Province show issues related to the risk of stunting in children (Fig.1). A total of 1.2% of PUS identified as too young, particularly in Asmat Regency with the highest rate of 3.6%. Meanwhile, most of the couples of childbearing ages (53.8%) were considered too old, with Nduga Regency reaching 73.3%. Furthermore, 4.9% of couples of childbearing ages have children that are too closely spaced, especially in Asmat Regency with the highest rate of 11%. More than 25% of couples of childbearing ages have multiple children, especially in Supiori Regency where it reaches 54.79%]. There is a need for careful intervention in various aspects of the lives of Papuans to improve their quality of life and well-being [15], [21].

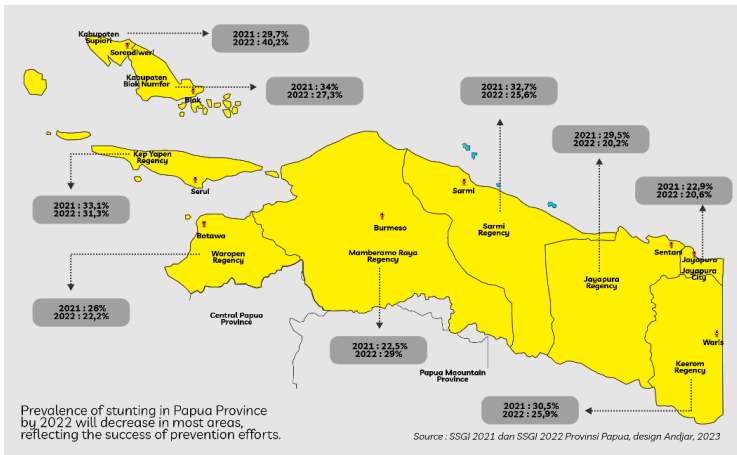


Fig. 1. Prevalence of stunting in Papua Province 2021-2022

Coordination [8], [9] in the stunting response program in Papua Province is essential to improve the effectiveness of these efforts. An evaluation of inter-agency coordination is necessary to assess the extent to which synergies and sharing of information and resources have been effective. The involvement of local governments is also a focus by evaluating their level of participation in the implementation of stunting reduction program at the local level. Another key aspect involves analyzing the budget allocation in the stunting reduction program in Papua Province to ensure the effectiveness and sustainability [28], [29] of the effort. The extent to which current budget allocations reflect the correct prioritization of stunting reduction.

Transparency is needed in identifying how much budget [24], [30] is allocated to key aspects such as prevention, intervention, health education and monitoring. The budget allocation is in line with the real needs on the ground, including factors such as geography and the level of vulnerability in different regions of Papua Province. The availability and distribution of financial resources at the local level is critical, ensuring that areas in need receive adequate budget allocations. These measures may involve cooperation between central and local governments to optimize budget allocations according to the specific needs of each region. Efficient use of budget, including administrative and overhead costs. Transparency in the use of funds and close monitoring of expenditure are measures that support accountability. The changing social and economic context, as well as changes in the dynamics of stunting in Papua Province are critical aspects. This requires constant updates and adjustments to keep budget allocations relevant and effective over time. By conducting a comprehensive analysis of budget allocations, potential improvements, efficiency gains and adjustments to financial strategies can be identified to ensure that available financial resources are optimally utilized to reduce stunting in Papua Province.

The next critical aspect is that the maturity of the monitoring system [12], [31] in the stunting response program in Papua Province is essential to ensure effectiveness, measurability, and adaptability to change. Key indicators related to stunting, including stunting prevalence, risk factors, and the impact of interventions. Monitoring should involve high quality and sufficient data to support evaluation of program success. The speed, accuracy and rigour of data collection and reporting are critical. Effective monitoring requires timely and accurate reporting systems, enabling stakeholders to take corrective action quickly if needed. The availability of adequate technology and information systems also needs to be considered to support real-time monitoring. Participation and involvement of stakeholders, including local communities, is a critical aspect. A successful monitoring system involves stakeholders at all levels, from government to community, to ensure comprehensive and representative data. The ability of the system to adapt to changing conditions and needs, as well as efforts to build monitoring capacity at the local level.

The critical aspect of addressing the impact of conflict [32], [33] in the accelerated stunting reduction program [1], [15] in Papua Province is crucial to ensure that the response effectively addresses this dimension. In-depth understanding of the impact of conflict on stunting. This includes assessing the extent to which the program has identified and comprehensively understood the direct and indirect impacts of conflict on

children's nutrition and health. The program has designed an intervention strategy appropriate to the conflict context in Papua Province that involves assessing the sustainability of the intervention amidst the uncertainties and changes that may occur in the conflict situation. Engagement and co-operation with conflict stakeholders is critical, including community groups, local stakeholders, and institutions involved in conflict management. Good cooperation can ensure that stunting programs are integrated with broader efforts in conflict management and regional reconstruction. Strategies to engage communities in the process of addressing the impact of conflict by empowering local communities can be key to designing and implementing interventions that are sustainable and suited to the specific needs of conflict-affected communities. In addressing the impact of conflict, concrete measures can be identified to strengthen and refine stunting reduction efforts, considering the unique conflict context in Papua Province, to ensure that programs are not only effective in addressing nutrition issues, but also sensitive to conflict dynamics that may affect children's health.

Critical aspects of handling the impact of natural disasters [34], [35], [36] in the context of the stunting reduction acceleration program in Papua Province are essential to mitigate risks and ensure the sustainability of children's health efforts under emergency conditions. Regional vulnerability to specific natural disasters, such as earthquakes, floods, or landslides. Potential risks that need to be addressed in program planning with reference to the capacity and preparedness of the local health system in the face of natural disasters. Evaluation of health infrastructure, equipment and human resources can help identify weaknesses that need to be strengthened to improve response to natural disasters. The accelerated stunting reduction program has integrated aspects of disaster preparedness in its strategy and implementation through the development of emergency response plans, training of health workers in emergency situations, and development of monitoring systems to detect post-disaster impacts on children's health. In the analysis, it is worth exploring how the program engages and coordinates with disaster-related agencies, local government, and local communities. This close collaboration will strengthen emergency response capacity and ensure that stunting programs continue to run even under disaster conditions. Through a comprehensive understanding of risk and preparedness for natural disasters, programs can design adaptive and responsive strategies and interventions. By doing so, the program can more effectively protect children's health, especially in the disaster-prone context of Papua Province.

4 Conclusion

The stunting reduction program in Papua Province needs urgent action due to high stunting rates and issues like low breastfeeding, economic instability, and maternal knowledge gaps. To improve, we should use our budget wisely, monitor progress closely, and address conflicts and disasters. Better coordination among agencies and active community involvement are crucial. Recommendations include improved coordination, budget optimization, regular monitoring, increased health awareness, tailored strategies for problem areas, stronger healthcare, disaster readiness, community participation, and enhanced maternal health education. A holistic approach is key for lasting

results. Further research should explore the long-term impact of maternal health education on reducing child stunting in Papua Province, focusing on effectiveness, challenges, and sustainability.

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