The Stunting Situation Analysis in Papua Province

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Abstract

Background: Stunting is a national issue that affects the quality of Indonesian and Papuan human resources since it raises the risk of disease, mortality, and impediments to children's physical and mental development. Stunting reduction necessitates a thorough situational analysis, which serves as the foundation for excellent planning. Objectives: The purpose of this study is to identify, evaluate, and investigate existing data based on trends and patterns of the problem of high stunting prevalence, as well as to investigate policy efforts, innovations, and obstacles in responding to stunting problems in Papua Province. Methods: This study is descriptive and takes a cross-sectional method. Sample: All stunting risk data from 2018 to 2022. Document observation and source triangulation are data collecting strategies. The research take place in Papua Province from April to May 2022, using data analysis approaches including descriptive statistics of ratios, rates, and proportions, tree analysis, and priority determination using the Bryant method. Result: The low prevalence of exclusive breastfeeding among children aged 6 to 23 months (39.4 percent). Early breastfeeding start is low (42.3 percent). The high number of children under the age of five who had ARI (33.3 percent), diarrhea (7.5 percent), and helminthiasis (7.3 percent), measles (4.7 percent). The low number of households with access to basic sanitation (57 percent), families without a fixed income (21.08 percent), Papua Province’s poverty rate is 27.53 percent, and the proportion of couples of reproductive age (PUS) with four children is still too high. In Papua, 19 districts (65%) are classified as highly vulnerable. Papua has the lowest Human Development Index (60.84 points) of the 34 provinces.

Keywords: Stunting; Situation Analysis.

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1. Introduction

Stunting is a public health issue linked to an increased risk of sickness, mortality, and the suppression of both motor and brain growth. Stunting is caused by growth stalling and insufficient catch-up growth, indicating an inability to reach optimum growth [1].

Stunting in toddlers can be caused by genetic and environmental variables that are insufficient for healthy child growth and development in developing nations. Parental income is one of the environmental variables that might impact the prevalence of stunting in toddlers. Adequate parental income promotes children's growth and development because parents can meet all of their children's requirements, both primary and secondary. Meanwhile, if parents' income is low, the majority of the cash will be spent to cover food demands, resulting in food insecurity for families. Low-income families and food instability might stifle child growth and development (stunting).

The purpose of this study of the stunting situation in Papua Province is to identify, evaluate, and investigate available data based on trends and patterns of the major health concerns that are risk factors for the high prevalence of stunting in Papua Province. The current study also attempts to investigate policy efforts, innovations, and challenges in responding to decentralization issues within Papua's governance system. The scenario analysis and its suggestions should be used by policymakers and practitioners in the district and province of Papua as a policy tool, program, and advocacy tool.

Papua Province is divided into 29 districts, the majority of which are in remote locations. The most important element in health care that contributes significantly to the stunting rate in Papua is that many locations are still difficult to reach owing to mountainous terrain between mountains and rivers and can only be reached by plane or helicopter. Rural tribes that continue to exclude themselves from government initiatives such as vaccination, family planning, and scientific and technological advancements.

Papua still has a high stunting rate of 29.5 percent, which is 5.1 percent higher than the national stunting rate, as well as a wasting rate of 8.8 percent, which is 1.7 percent more than the national figure. Because of the large frequency of these two values, Papua is classified as Chronic-Acute (Stunted 20 percent and Wasted 5 percent).

Based on the issues raised above, the researcher is interested in doing a cause-and-effect study of stunting in Papua in order to better understand the problem by identifying the direct, indirect, and underlying causes of stunting in Papuan mother's and child's condition.

This Stunting Situation Analysis can be used as input for regional planning documents, as a tool for controlling regional-HR development program planning and implementation, and as a means of equalizing perceptions in decision making and determining priorities for regional stunting alleviation programs.

2. Methods

This study is descriptive and takes a cross-sectional method. This study's population includes all stunting risk
statistics from 2018 to 2022. Researchers may obtain stunting risk data from 2018 to 2022 in the sample. Purposive sampling was used, with the data criterion being the last 5 years, available, and representing stunting risk statistics from official surveys and/or government data at the national, province, and district levels. Document observation and source triangulation are data collecting strategies. The research conducted in Papua Province from April to May 2022, employing data analysis techniques such as descriptive statistics of ratios, rates, and proportions, as well as tree analysis and priority determination using the Bryant method.

3. Results
3.1. Stunting Data

According to SSGI 2021 statistics, there are still 20 districts with a stunting prevalence of more than 30% and 9 districts with a prevalence of 20-30%.

![Figure 1: Stunting Zoning of Regency/City of Papua Province](image)

Papua has a stunting rate of 29.5 percent, as well as a wasting rate of 8.8 percent, which is 1.7 percent greater than the national level.

3.2. Stunting risk factors

Some of the items that constitute risk factors for the acute chronic category include:

1. There is still a lack of exclusive breastfeeding coverage for children aged 6 to 23 months (39.4 percent). The low rate of early breastfeeding initiation (42.3 percent) ranks 30th out of 34 provinces.
2. The high number of children under the age of five who had ARI (33.3%), diarrhea (7.5%), and helminthiasis (7.3%), Measles (4.7 percent).
3. Indonesia has the lowest number of families with access to basic sanitation (57%) and the mother's lack of awareness about child care routines and the supply of nutritional meals.
Table 1: Proportion of Unhealthy Environmental Factors

<table>
<thead>
<tr>
<th>Unhealthy Environmental Factors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>decent drinking water source</td>
<td>52.22</td>
</tr>
<tr>
<td>proper latrine</td>
<td>56.34</td>
</tr>
<tr>
<td>livable home</td>
<td>26.90</td>
</tr>
</tbody>
</table>

Sources of proper drinking water are only 52.22%, the lowest is in Pegunungan Bintang regency only 0.03%, and the 2024 target is 100%. Adequate latrines are 56.34%, the lowest is Puncak Regency, only 9.7% (target 2024 is 90%). Livable home 26.90%, the lowest is Pegunungan Bintang Regency 0%, the target in 2024 is 100%.

4. Children aged 7-15 years do not go to school 12.48%, the highest is Yalimo District 24.6%. No family member has a fixed income of 21.08%, and the highest is Kabupaten Paniai 76.3. Soil Floor Type 9.66%, the highest is Puncak District 62.4%. Food is not diverse 21.34%, the highest is Paniai Regency 65.7%.

5. The poverty rate in Papua Province is 27.53 percent, which is still in the high category when compared to the national poverty rate in 2020 of 9.78 percent and is considerably over the RPJMN objective of 2024. The national poverty rate is estimated to be 6-7 percent.

Papua's poverty level is 540.10 per capita per month, up from 458.9 per capita per month in 2018, and remains higher than the national poverty limit of 458.9 per capita per month.

6. Proportion of couples of childbearing age (EFA) with 4 too, namely: too young 1.2%, the highest in Asmat Regency 3.6%, EFA too old 53.8%, the highest in Nduga district 73.3%, EFA too close 4.9 %, the highest is Asmat District 11%, EFA too many children 24.1%, the highest is Supiori District 54.79%.

7. Food Security in Papua is generally categorized as Very Vulnerable, where there are still 19 districts (65.5%) which are still categorized as very vulnerable.

Figure 2: Food Security Zoning, Papua

8. Papua Province has the lowest Human Development Index of the 34 provinces, with only 60.84 points. Or
lower than Indonesia’s average HDI (71.92) [2].

Figure 3: Human Development Index by Province

9. Papua Province has the lowest coverage of K4 pregnant women in Indonesia, at 37.15 percent, which is still well below the national objective of 80 percent. Papua province has the lowest delivery coverage in health services, at 45.56 percent, considerably below the 2019 Strategic Plan objective of 85 percent. In terms of active family planning participant coverage in Indonesia, Papua ranks 33rd out of 34 provinces, with just 25.4 percent, falling well short of the RPJMN objective of 66 percent.

10. Lack of baseline vaccination coverage between the ages of 12 and 23 months (50.5 percent). Papua Province has the second lowest measles vaccine coverage in Indonesia, at 69.98 percent, falling short of the national target of 95 percent [2].

11. Policy Issues
Table 2: SWOT Analysis for Policy

<table>
<thead>
<tr>
<th>External Factors</th>
<th>Internal factors</th>
<th>Opportunities</th>
<th>Treats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
<td><strong>Strength</strong></td>
<td><strong>Treats</strong></td>
</tr>
<tr>
<td>There are National Policies, There are Cross-sector Cooperation, Higher Education Cooperation; Support from traditional leaders and community leaders.</td>
<td>Security, conflicts, natural disasters, community behavior, tribal wars;</td>
<td>1. Presidential Decree 72/2021 Concerning the acceleration of stunting reduction; 2. BKKBN Regulation No. 12 of 2021 concerning RAN SURE 2021-2024; 3. Decree of the Governor of Papua No. 188.4/140/Year 2022 concerning Team formation (TPPS) at the Provinicial level; 4. Decree of the Regent concerning the establishment of TPPS at the district/city level; 5. There is a policy for the establishment of a Stunting Task Force to assist TPPS; 6. Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/3647/2021 concerning Details of DAK for Strengthening Stunting Interventions (Ministry of Health, 2021); 7. The existence of Permendesa PDTT No. 7 of 2021 concerning Priority for the use of the 2022 Village Fund with program priorities for financing maternal and child health; 8. In accordance with the mandate of Law no. 21 of 2001 concerning Special Autonomy for Papua, that the development policy of the Papua Province is directed at Affirmative, Empowerment, and Sustainability.</td>
<td>Alternative S-O 1. There is a commitment from various parties, across sectors and OPD to jointly implement the policy; 2. There is binding power in policy supervision or escort in implementing policies from the provincial level to the district, district to village level; 3. Improve coordination and communication with related agencies; 4. Improving Policy Socialization and promoting stunting policies in all sectors; 5. Strengthening regional regulations from the province to the village level; 6. Dissemination of local regulations on stunting reduction.</td>
</tr>
</tbody>
</table>

Establishing an Evaluation Monitoring Team for the Stunting Reduction Acceleration Team for Controlling the Team in Implementing the Program.


12. Budget Issues

Table 3: SWOT Analysis for Budget

<table>
<thead>
<tr>
<th>External Factors</th>
<th>Opportunities</th>
<th>Treats</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Internal Factors</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. There is a BOKB (Family Planning Operational Assistance); 2. Availability of a large DAK Budget for Regular Physical Family Planning; 3. Availability of DAK Budget for Physical KB Sub-Sector Assignment; 4. Availability of a large Non-Physical Family Planning Sub-Division (BOKB) DAK budget; 5. Open access to follow-up and budget disbursement advocacy; 6. The source of financing for the acceleration of stunting prevention is based on the existing government financing schemes, namely the Village Fund (APBDesa), APBD; 7. Regency/City, Special Allocation Fund (DAK), Provincial APBD, Ministry/Agency budget (APBN); 8. Government partnerships with international institutions, NGOs and domestic NGOs.</td>
<td></td>
</tr>
</tbody>
</table>
| Strength | 1. BOKB budget Rp. 102,032,693,000,-  
2. There is a regular Physical DAK of Rp. 31,695,560,000,- The realization of this budget is quite good, namely 95.2%, but there are still districts whose realization is very low, namely Kabupaten Intan Jaya which only 21% or still leaves Rp. 658,190,500,-  
3. There is a physical DAK Assignment of Rp. 7,672,408,487,-. The realization of this budget was 89.7% (Rp. 6,883,682,492) and there were 2 districts with a realization rate of 0%, namely Intan Jaya and Yalimo; and  
4. Realization rates <25% are Dogiyai and Supiori districts;  
5. BOK Total budget of Rp. 141,400,661,487 including the highest budget for regional III in 2021. | Alternative S-O  
1. Strengthening the supervision and monitoring and evaluation of the use of the budget;  
1. The use of budget for stunting with a focus on stunting loci in 240 villages. | Alternative S-T  
1. The existing budget is realized in the form of activities so that absorption is 100%;  
2. Training for financial managers so that they are able to plan and make activities so that the budget is absorbed 100%. |
| Weakness | 1. The ability of employees to absorb the budget in the form of activities;  
2. Weak supervision in the use of the budget;  
3. Disbursement of funds that are delayed and generally disbursed at the end of the year;  
4. Low financial management capability;  
5. Lack of transparency in the use of the budget;  
6. Lack of advocacy for timely disbursement of the budget;  
7. Use and allocation of budget that is not according to plan or not on target;  
8. Lack of understanding on strengthening stunting interventions among policy makers and managers of stunting reduction acceleration programs;  
9. Inadequate availability of data on strengthening stunting interventions from related SKPDs. | W-O Alternative  
1. Establishing an Evaluation Monitoring Team for the Team for Accelerating Stunting Reduction for Controlling the Team in Implementing the Program;  
2. Train financial officers to be able to make activities so that budget realization is better;  
3. Advocating for better use of the budget. | W-T Alternative  
1. Advocating for a liquid budget at the beginning of the year;  
2. Supervise and evaluate and monitor the use of the budget. |

13. Human Resources Problem
### Table 4: SWOT Analysis for Human Resources

<table>
<thead>
<tr>
<th>Internal Factors</th>
<th>Opportunities</th>
<th>Strength</th>
<th>Alternative S-O</th>
<th>Alternative S-T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Factors</strong></td>
<td>Based on the Governor's Decree concerning the Team for Accelerating Stunting Reduction, the HR involved in reducing stunting are:</td>
<td>1. Availability of the Stunting Task Force; 2. Technical Assistant and Program Coordinator and evaluation in 29 districts/cities.</td>
<td>1. Utilizing cadres and the Stunting Task Force in Auditing Stunting Cases; 2. Involvement of MBKM (Merdeka Belajar Merdeka Campus) students, MBKM in the assistance provided to target groups in order to strengthen stunting interventions; 3. Availability of a large enough budget to increase human resources in supporting the acceleration of stunting reduction; 4. Availability of New and Competent Human Resources through Higher Education Cooperation; 5. Availability of Family Assistance Personnel in Each Village/Kelurahan; 6. There is a TPPS that will carry out 8 Convergence Actions at the Puskesmas.</td>
<td>1. Utilizing traditional leaders and religious leaders; 2. Cooperate with the security forces; 3. Utilizing collaboration with the Stunting Task Force and TA in 29 districts; 4. Recruiting IT personnel; 5. Cooperate with the security forces.</td>
</tr>
</tbody>
</table>
Weakness

1. Not all districts have formed a Stunting Reduction Acceleration Team (TPPS);
2. If a district has established a TPPS but it doesn't work effectively, these TPPs go down to the village because transportation costs are expensive;
3. Lack of health workers with educational background in Nutrition;
4. Lack of health workers who have soft and hard skills in doing anthropometry;
5. The number of workers who do double work so that they experience difficulties in carrying out their main tasks;
6. No policies have been revealed to be local regulations;
7. Unclear technical guidelines and technical guidelines for strengthening stunting interventions so that not all officers understand the stunting program.

Establishing an Evaluation Monitoring Team for the Stunting Reduction Acceleration Team for Controlling the Team in Implementing the Program.

1. Encouraging that all TPPS be formed from district, district to village;
2. Recruit qualified human resources NUTRITION.

Analysis of the Stunting Problem Tree in Papua

Figure 4: Tree analysis of the Stunting problem in Papua

Determination of Problem Solving Priority

To determine what problems need to be prioritized from the problem tree analysis, the researcher uses prioritization with the BRYANT method.
The Bryant method uses a scoring based on the following criteria:

\[ P = \text{Prevalence or the magnitude of the problem, namely the number or group of people affected by the problem.} \]

\[ S = \text{Seriousness or the gravity of the problem} \]

\[ C = \text{Community concern, namely the attention or interest of the community and government or relevant agencies on the matter.} \]

\[ M = \text{Manageability, namely the availability of resources (manpower, funds, facilities and methods/methods)} \]

The score for each criterion ranges from 1-5. BRYANT's scoring is as follows:

<table>
<thead>
<tr>
<th>Problem</th>
<th>P</th>
<th>S</th>
<th>C</th>
<th>M</th>
<th>Score</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low HDI</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>250</td>
<td>IV</td>
</tr>
<tr>
<td>Poverty</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>200</td>
<td>V</td>
</tr>
<tr>
<td>Policy, budget</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>300</td>
<td>III</td>
</tr>
<tr>
<td>Human Resources</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>400</td>
<td>II</td>
</tr>
<tr>
<td>Food insecurity</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>625</td>
<td>I</td>
</tr>
</tbody>
</table>

Based on the BRYANT method, the priority for stunting in the short term is food insecurity, then human resources and policy and budget issues.

4. Discussion

According to the study's findings, there are still 20 districts in Papua with a stunting prevalence of infants beyond 30%, or the red zone category, and 9 districts with a prevalence of 20-30%. In comparison to the 2024 aim, Papua must work hard to reduce the 20 red coded districts to green zones and the 9 green zones to 8 districts.

According to SSGI 2021 statistics, the prevalence of stunting in Papua is 29.5 percent, which is 5.1 percent higher than the national stunting rate, and the wasting rate (8.8 percent) is 1.7 percent more than the national number. Because of the large frequency of these two values, Papua is classified as Chronic-Acute (Stunted 20 percent and Wasted 5 percent).
Based on the study's results, it was determined that there were 11 factors that became risk factors for stunting in Papua, including variables that were direct causes and variables that did not directly cause stunting.

Risk factors for inadequate exclusive breastfeeding coverage in children aged 6-23 months (39.4 percent). The low rate of early breastfeeding initiation (42.3 percent) ranks 30th out of 34 provinces. One of the reasons of stunting in toddlers is not providing exclusive breastfeeding for 6 months since breast milk is required throughout the baby's development stage to provide his nutritional demands. Anita Sampe and her colleagues discovered a link between exclusive breastfeeding and the occurrence of stunting in children in Buntu District, Malangka, Mamasa Regency [3]. Meanwhile, in the odds ratio test, the OR result is 61, indicating that toddlers who are not exclusively breastfed are 61 times more likely to develop stunting than toddlers who are exclusively breastfed. Exclusive breastfeeding can minimize the risk of stunting.

The high prevalence of infectious infections among youngsters in Papua is the second risk factor. The high number of children under the age of five who have ARI (33.3 percent), diarrhea (7.5 percent), helminthiasis (7.3 percent), and measles (4.7 percent). Infectious disorders, such as diarrhea, can have long-term consequences. The zinc mineral will be lost in high quantities by toddlers throughout their diarrhea stage.

Similarly, when children under the age of five are infected with viral illnesses such as ARI, worms, and measles, their micronutrient intake decreases because infectious diseases cause children to lose their appetite. According to Angina R. Solin and colleagues' research in the Rejosari Health Center Pekanbaru area, toddlers who experienced ARI with stunting were 83.3 percent, with the results obtaining P value (0.001) (= 0.05) stating that there was a relationship between the incidence of ARI with stunting in children under five [4].

Desyanti and Nindya (2017) discovered the same phenomenon, demonstrating through a Chi-Square analysis of the findings that there is a substantial association between a history of diarrhea and the incidence of stunting, as well as a history of ARI and stunting. Children who often face risk are 3.7 times more likely [5]. This is consistent with the findings of a study done in Karangasem, which found that viral disorders can impede linear development by first impairing the nutritional health of children under the age of five. This occurs because viral disorders can decrease food intake, interfere with nutrient absorption, resulting in direct nutritional loss and increased metabolic demands.

The third risk factor is the low number of homes with access to basic sanitation (57%), mothers' lack of awareness about child care practices, and the supply of nutritional food. Only 52.22 percent of inhabited dwellings have access to safe drinking water. Housing with poor sanitation exposes children under the age of five to illness and puts toddlers at risk of stunting. Fitri Nur Ainy's research discovered a link between household environmental cleanliness and the incidence of stunting in toddlers (p value = 0.001) [6]. According to a study conducted in 2021 by Sitti Hasanah and colleagues, there was a significant relationship between the variables of clean water sources, access to sanitation, household waste management, household waste management, the incidence of diarrhea, and the incidence of ARI with the incidence of stunting in toddlers in Indonesia [7]. The fourth and fifth risk variables are markers of pre-prosperous households, with poverty accounting for 27.53 percent of the total. According to Diva Arum Mustika, 2022, poverty is a major cause of
stunting in toddlers. Poor families are unable to provide adequate nutrition for their children, resulting in stunting. Children's growth and development are impeded in such circumstances, resulting in untrained human resources [8]. Human resources who are not qualified cannot satisfy economic demands, trapping them in poverty. Such is the picture of stunting and the poverty vortex. The sixth risk factor is the Proportion of Couples of Childbearing Age (EFA), which has four components: too young 1.2 percent, too old 53.8 percent, and too old 53.8 percent. Too many children (24.1%) and too close 4.9 percent Pus with 4 is too risky to give birth to stunted children because, for example, being too young will affect EFA's readiness, which is not only mental readiness but also a complete package, including physical and financial matters, so that if it is not fully prepared, it will affect the nutritional intake needed since fetus, which of course becomes EFA at risk of giving birth to stunted children.

Food security is the sixth risk factor for stunting. Food security in Papua is typically classified as Highly Fragile, with 19 districts (65.5 percent) currently classified as very vulnerable. According to Yusri Afifatul Hoeriyah's research in 2021, respondents with stunting children (93.8 percent) were classified as food insecure (63.3 percent) [9]. The eighth element is the Human Development Index of Papua Province, which is the lowest among the 34 provinces with 60.84 points. The Human Development Index is connected to and has a reciprocal relationship with Stunting, according to Candra (2021) [10]. A low Development Index indicates a lack of education and economic capacity, as well as a high rate of stunting. Meanwhile, stunting might result in a poor development index. Stunting is a diverse and difficult problem. According to Grantham McGregor and Baker Henningham (2005), stunting is also connected with inferior cognitive capacities and school performance in several nations. School-age learning capacity, school grades and accomplishment, adult salaries, risk of chronic illnesses such as diabetes, morbidity and mortality, and even economic production are all affected by stunting. According to IFLS statistics from 13 Indonesian provinces (2018), over half (48.6 percent) of children aged 7-8 years have inadequate cognitive ability. Infants aged 0-6 months who are short and remain short until the age of 7-8 years have a 2.8 times greater chance of having worse cognitive ability than non-stunted youngsters.

An evaluation conducted in 2015 by the OECD PISA (The Institution for Economic Cooperation and Development Program for With International Student Assessment), a famous worldwide organization, reported that Indonesia was placed 62 out of 70 nations with a score of 403. Singapore, Vietnam, and Thailand are ranked 1.8, 525, and 421, with average scores of 556, 525, and 421, respectively [10]. Based on an examination of the Papua Province stunting problem tree, it is known that the root of the Papua stunting problem that is not directly connected to stunting is the Human Development Index. The Human Development Index will then be linked to poverty, human resources, the budget, and policy. Food insecurity is intimately tied to poverty.

5. Conclusion

1. The Stunting risk factors in Papua are multifaceted;
2. There are 13 risk variables studied, three of which are directly associated, namely non-optimal parenting, insufficient nutritional intake, and infectious illnesses. There are five intermediary factors: food insecurity, poor public understanding, limited access to health care and four too PUS. There are four major factors: poverty, policy, budget, and human resources, with the Human Development Index serving as the basis of the problem. PUS 4 Too, access to health care, the environment, and infectious illnesses are all issues that the general people is unaware of patterns of parenting, dietary consumption;
3. Food security is the most pressing issue in the short term.
References


