

Research Article

Dynamics of Food Self-sufficiency and Stunting: Evidence Jember Regency Indonesia

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Abstract.

The urgency of this research lies in the need for a deeper understanding of the factors that cause high stunting in areas that are nominally successful in food self-sufficiency. This study also seeks to fill the literature gap by directly linking food self-sufficiency policies and children's health conditions, especially in the context of stunting. Furthermore, this study reviews two main problem formulations, namely: 1) What are the dynamics of food self-sufficiency and stunting rates in Jember Regency? 2) How to optimize the stunting reduction policy strategy in Jember Regency? This research method uses qualitative with in-depth interview data collection techniques, this research analysis technique uses data triangulation. The implications of these findings emphasize the importance of adopting a more holistic and cross-sectoral policy approach. Efforts to reduce stunting in Jember must be integrated with food security policies that pay attention to nutritional quality, as well as effective health and education programs. Local governments need to strengthen coordination between sectors and involve communities in policy implementation to ensure that the benefits of food self-sufficiency can be felt by all levels of society, especially the most vulnerable.

Keywords: food self-sufficiency, stunting, Indonesia

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1. Introduction

Stunting or stunted child growth has become an urgent global issue, especially in developing countries [1]; [2]. According to the World Health Organization (WHO), about 22% of children under the age of five worldwide are stunted. This condition not only affects physical growth, but also cognitive development and long-term health of children. The main causes of stunting include lack of nutritional intake, poor sanitation, and early marriage practices [3]; [4]. Although various global initiatives have been carried out to reduce stunting rates, the challenges faced are still enormous, especially in countries with low levels of food security.



In Indonesia, stunting has become one of the main focuses of national policy in recent years. The Government of Indonesia has issued various regulations and policies aimed at achieving food self-sufficiency and reducing stunting rates. One of the important legal foundations is Law Number 18 of 2012 concerning Food, which underlines the importance of food availability, affordability, and safety for all Indonesians. In addition, the National Program for the Acceleration of Stunting Reduction launched in 2017 aims to accelerate the reduction of stunting rates through a multisectoral approach that includes health, sanitation, education, and nutrition.

Efforts to handle stunting in Indonesia are closely related to the Sustainable Development Goals (SDGs), especially the 2nd goal, namely “Ending Hunger, Achieving Food Security, and Improving Nutrition” [5]. In this context, stunting is an important indicator in assessing the success of the national food security and nutrition program. Food security, which is one of the main pillars in achieving goal 2 of the SDGs, plays an important role in ensuring the availability and access to adequate, nutritious, and safe food for all levels of society, especially children.

Stunting, if not immediately addressed seriously in the long term, is very dangerous to the sustainability of a nation, because if a generation experiences stunting a lot, in the future national productivity will be low. Children who are growing up at that time are likely to have limited educational and job opportunities [6]. Furthermore, this generation will live in a cycle of poverty due to their limited ability to meet their living needs. If this condition is not immediately addressed seriously, it is very likely that our nation in the future will bear a heavy economic burden because people who were stunted in childhood will tend to have low incomes as adults. The commitment to accelerate stunting reduction is carried out by the Indonesia government by issuing Presidential Regulation Number 72 of 2021 concerning the Acceleration of Stunting Reduction. This Presidential Regulation is the legal umbrella for the National Strategy for the Acceleration of Stunting Reduction which has been launched and implemented since 2018. This Presidential Regulation is also to strengthen the framework of interventions that must be carried out and institutions in the implementation of accelerating stunting reduction. The National Strategy for the Acceleration of Stunting Reduction is implemented to achieve the target of sustainable development goals by 2030.

However, stunting cases are still high, in 2022 the prevalence of stunting in Indonesia is 21.6%, down from 24.4% in 2021. Among the G20 countries, Indonesia’s ranking is second only to India. For this reason, Indonesia is striving to reduce stunting by 14% by 2024. At the national level, stunting cases in East Java are still quite high. This is the

commitment of the East Java Provincial Government and all city districts in East Java to reduce the stunting prevalence rate. The results of the Indonesia Nutrition Status Survey (SSGI) of the Ministry of Health show that the prevalence of stunting among toddlers in East Java reached 19.2% in 2022. This province was ranked 25th with the highest prevalence of stunting in Indonesia last year. East Java managed to cut the number of stunted children under five by 4.3 points from the previous year. In 2021, the prevalence of stunting among children under five in this province was recorded at 23.5%. The following is the distribution of stunting prevalence in City Regencies in East Java. The following will be presented with data on stunting prevalence in East Java Province:

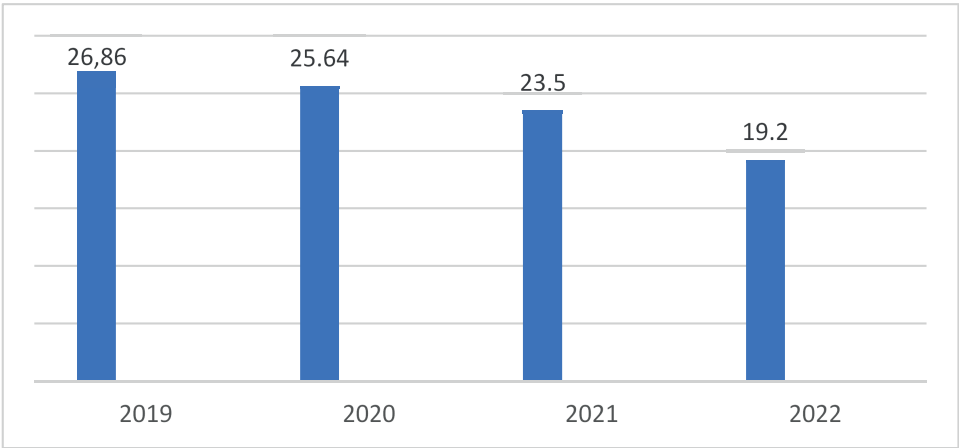


Figure 1: Development of Stunting Prevalence in East Java Province.

Based on Indonesia’s Nutrition Status Survey data from the Ministry of Health, of the 33 districts/cities in East Java, Jember regency is in the highest order at 34.9% in 2022. While the second highest position is Bondowoso Regency with 32%. Jember Regency, East Java Province is one of the regions that received awards for its success in managing food self-sufficiency. However, this poses an interesting paradox because Jember Regency also recorded the highest stunting rate in East Java based on the 2022 Indonesia Nutrition Status Survey (SSGI), with a prevalence of 24.9%. This contradiction raises fundamental questions about the effectiveness of food self-sufficiency policies in reducing stunting rates, especially in areas that have good achievements in food security.

This study is important because it raises the contradiction that occurs in Jember Regency, where success in food self-sufficiency is not followed by a significant reduction in stunting rates. The urgency of this research lies in the need for a deeper understanding of the factors that cause high stunting in areas that are nominally successful in

food self-sufficiency. This study also seeks to fill the literature gap by directly linking food self-sufficiency policies and children’s health conditions, especially in the context of stunting. Furthermore, this study reviews two main problem formulations, namely: 1) What are the dynamics of food self-sufficiency and stunting rates in Jember Regency? 2) How to optimize the stunting reduction policy strategy in Jember Regency?

The remaining study sections in this article are as follows. The second part reviews the latest literature studies that are relevant to food self-sufficiency policies and stunting prevention. The third part presents the research methods used. Part four contains relevant discussions and discussions, and finally part five presents the main conclusions.

2. Methods

This study uses a qualitative approach to explore in depth the phenomena related to the dynamics of food self-sufficiency and stunting in Jember Regency. The qualitative approach was chosen because it allows researchers to understand the social, cultural, and economic contexts that affect both issues, as well as gain direct insights from the stakeholders involved [7]. The data in this study was collected through in-depth interview techniques with several informants who had direct involvement with the phenomenon being studied. In-depth interviews were chosen because this method provides flexibility to researchers to explore the informant’s experiences, views, and perceptions more comprehensively. The informants of this research are:

TABLE 1: Research Informant.

No	Informant’s Name	Agency
1	SPH	Head of DP3AK
2	MFB	Deputy Regent of Jember Regency
3	SW	Jember Regency Social Service
4	KA	Child Protection Division DP3AK Jember Regency
5	IGS	Head of Tegallingsgah Village
6	DL	BKKBN

The informants in this study were selected based on stakeholder analysis [8]. Stakeholder analysis is used to identify individuals or groups that have influence or are affected by the issue of food self-sufficiency and stunting in Jember Regency. The selection of these informants aims to ensure that diverse and relevant perspectives related to the phenomenon being studied can be represented comprehensively. The data

obtained from in-depth interviews were analyzed using triangulation techniques. Triangulation is carried out by comparing information obtained from various informants and linking findings from interviews with secondary data, such as government reports, official statistics, and relevant literature. Through the triangulation technique, researchers can confirm the validity of the data and ensure that the resulting interpretation is an accurate reflection of the phenomenon being studied.

3. Results and Discussion

3.1. Interpretation of Food Self-Sufficiency Dynamics and Stunting Rate in Jember Regency

Stunting reduction and prevention in Jember Regency is a complex issue that requires a comprehensive and integrated public policy approach. Public policy is often understood through a systemic approach, where social problems such as stunting cannot be solved through a single policy, but requires synergy from various sectors [9]. According to the theory of the “Multiple Streams Framework” effective policies arise when three main streams: 1) Problems; 2) Policy; and 3) politics. In the context of stunting in Jember Regency, this approach implies that in order to produce effective policies, the government must first identify the main problem (high stunting rates), design relevant policies (nutrition, sanitation, education intervention programs), and ensure strong political support for the implementation of these policies. In Jember Regency, synergy between the health, education, agriculture, and infrastructure sectors is the key to reducing stunting. For example, the agricultural sector plays a role in ensuring food self-sufficiency which focuses not only on quantity, but also on the nutritional quality of the food products produced. Meanwhile, the health sector is responsible for the implementation of nutrition programs aimed at pregnant women and children [10]. In addition, the education and infrastructure sectors must also support by providing access to good sanitation and adequate nutrition education facilities [11].

The theory of “Incrementalism” argues that public policy tends to develop through small, gradual changes, rather than through large, revolutionary changes [12]. In the context of stunting reduction in Jember Regency, this approach is relevant because policy interventions aimed at reducing stunting rates must be carried out gradually and sustainably. For example, nutrition and sanitation education programs cannot be expected to result in drastic changes in a short period of time, but through consistent

gradual interventions, cumulative impacts can result in significant reductions in stunting prevalence. In Jember Regency, the implementation of this phased policy can begin with a focus on areas with the highest stunting prevalence, followed by the development of sustainable intervention programs and the expansion of program coverage to all districts. Periodic evaluations and program adjustments based on the results of the evaluation are also important to ensure the effectiveness of the policies implemented.

Public policy approaches must also be tailored to the local context, given that each region has different characteristics, challenges, and resources [13]. Jember Regency, with its achievements in food self-sufficiency, has great potential to utilize local resources in efforts to reduce stunting. However, challenges such as uneven food distribution, limited access to health services, and the practice of early marriage require specific and contextual policies. Local governments can adopt a more participatory approach, involve the community in decision-making, and integrate food policy with health and sanitation policy. This can be done through community discussion forums, collaborations with non-governmental organizations, and strengthening the role of village governments in policy implementation.

An in-depth interview with SPH, which represents the Jember Regency Women's Empowerment, Child Protection, and Family Planning Office (DP3AK), revealed several important insights related to the implementation of food self-sufficiency policies in Jember Regency. The interview statement will be reviewed as follows:

“Jember Regency has succeeded in increasing food production, especially rice, until it reaches self-sufficiency. However, he also acknowledged that the main challenge faced today is how to ensure that the production results can be optimally utilized by all levels of society, especially in the context of reducing stunting rates.” (Interview conducted on April 8, 2024 at 13.00 WIB)

The results of a similar interview were stated by MFB as the Deputy Regent of Jember Regency as follows:

“Food self-sufficiency is a top priority for the Jember Regency government, considering that this area has huge agrarian potential. The food self-sufficiency policy in Jember has been focused on three main pillars: increasing production, equitable distribution, and improving food quality. Although Jember has achieved food self-sufficiency, there is still a gap that must be overcome in terms of food utilization to improve the nutritional status of the community.” (Interview conducted on April 9, 2024 at 14.00 WIB)

Based on the results of the interview, public officials stated that although they have reached a fairly established stage in food self-sufficiency, they have challenges in improving nutritional status. The same thing was stated by SW as a representative of the Jember Regency Social Service as follows:

“The results of the food self-sufficiency policy can be accessed by all levels of society, especially vulnerable and underprivileged groups. Fair and equitable distribution is a major challenge in the implementation of this policy. Therefore, the Social Service plays an important role in identifying community groups in need of assistance, as well as ensuring that they have adequate access to quality food.” (The interview was conducted on May 27, 2024 at 14.00 WIB)

Furthermore, the researcher will present a review related to the high stunting rate in Jember Regency. Based on the results of the interview conducted with KA as DP3AK of Jember Regency as follows:

“Stunting is not only a health problem, but also an issue related to social welfare, education, and women’s empowerment. Therefore, stunting reduction efforts must involve a comprehensive and cross-sectoral approach. The importance of community support and strong collaboration between the government, non-governmental organizations, and the private sector in efforts to reduce stunting.” (Interview conducted on May 30, 2024 at 13.00 WIB)

Furthermore, the results of the interview conducted to IGS as the Head of Tegalinggah Village are as follows:

“The village government works with local farmer groups to ensure that the food available in the village is not only sufficient in quantity, but also of high quality in terms of nutrition. In addition, the village also encourages food diversification by developing local food crops that are rich in nutrients, such as vegetables and fruits. There are still challenges in the implementation of these policies, especially related to traditional practices that sometimes contradict health recommendations.” (Interview conducted on May 31, 2024 at 12.00 WIB)

Overall, the interpretation of the results of this interview shows that although Jember Regency has succeeded in achieving food self-sufficiency, major challenges still exist in terms of linking these successes to real improvements in public health, especially in reducing stunting rates. The gap between food production and its use to improve community nutrition shows the need for a more holistic and coordinated approach to policy implementation. Efforts to reduce stunting in Jember require stronger synergy

between health programs, women's empowerment, and food distribution. In addition, interventions should focus more on periodic monitoring and evaluation to ensure that the policies implemented are truly effective and can answer existing challenges

3.2. Optimizing Stunting Reduction Policy Strategies in Jember Regency

Jember Regency has received an award for its achievements in managing food security, which shows the success of this region in achieving food self-sufficiency, especially in the production of major food commodities such as rice [14]. However, this success poses a striking paradox, considering that Jember also recorded the highest stunting rate in East Java, with a prevalence of 24.9% based on the 2022 Indonesia Nutrition Status Survey (SSGI). This phenomenon raises fundamental questions about the effectiveness of food security policies in Jember in answering public health problems, especially related to the nutritional status of children. Theoretically, food self-sufficiency should contribute positively to improving the nutritional status of the community, because sufficient food availability is considered a prerequisite for good health [15]. However, in reality, the success in achieving food self-sufficiency in Jember is not automatically directly proportional to the decrease in stunting rates.

There are several factors that can explain this anomaly. First, the focus of food security policies that focus too much on increasing the quantity of production without paying attention to the nutritional quality of the food produced. Abundant rice production, for example, is not always accompanied by food diversification that is important to meet the needs of micronutrients such as protein, vitamins, and minerals. In fact, this unbalanced nutritional intake is one of the main causes of stunting. Second, the uneven distribution and accessibility of food in various areas of Jember Regency also contributes to the high stunting rate. Although food production in Jember is high, challenges in distribution cause not all levels of society to be able to access nutritious food easily, especially in remote areas. This inequality of access worsens the nutritional condition of children in these areas, which is ultimately reflected in the high prevalence of stunting. Third, non-food factors such as poor sanitation, early marriage, and lack of nutrition education also play a significant role in increasing the risk of stunting, even though food is available in sufficient quantities. For example, early marriage in Jember is still quite common, which has an impact on pregnancy at a young age and the lack of readiness of mothers in providing good nutritional intake for their children. In addition, poor sanitation practices

make children more susceptible to infections, which can inhibit nutrient absorption and worsen stunting conditions. Fourth, ineffective coordination between food security programs and public health programs also contributes to this anomaly. Sectoral policies without strong synergy can lead to gaps between food production goals and public health. Even though food production is increasing, if there are no integrated health programs, such as nutrition education or maternal and child health interventions, food security efforts will not have an optimal impact on reducing stunting.

This anomaly shows that success in one sector, such as food security, cannot be used as the only indicator of regional development success, especially if there are still fundamental problems such as stunting that have not been resolved. Therefore, policymakers in Jember Regency need to adopt a more holistic and integrated approach in dealing with this issue. This includes combining efforts to improve food security with programs focused on improving nutrition, education, and sanitation, as well as improving cross-sectoral coordination to ensure that all policies are mutually supportive and contribute directly to community well-being.

Optimizing stunting reduction strategies in Jember must begin with the adoption of a holistic approach involving various sectors, including health, education, agriculture, and infrastructure. According to Wiedemann & Ingold [16] effective public policy must involve cross-sectoral coordination and the participation of all stakeholders. In the context of stunting, this means that nutrition improvement programs cannot run alone, but must be integrated with food, sanitation, education, and economic empowerment policies. This approach can start by strengthening the “First 1000 Days of Life” program which emphasizes the importance of nutritional interventions during pregnancy up to the age of two. This program must be expanded and combined with intensive nutrition education, increased access to health services, and improved sanitation. In addition, food diversification by promoting the consumption of nutritious local foods must also be encouraged to ensure adequate micronutrient intake for pregnant women and children.

Stunting reduction strategies must focus on improving the accessibility and utilization of nutritious food, not just on food availability. True food security is when every individual has access to high-quality food in a sustainable manner [17]. Therefore, the Jember Regency government needs to ensure that food self-sufficiency programs not only produce food in large quantities, but also in quality that can significantly improve the nutritional status of the community. Another opinion through the “Multiple Streams Framework” states that the success of public policy requires a meeting between clearly identified problems, appropriate solutions, and strong political support [18].

Despite the negative implications, policies that prohibit early marriage or change certain social practices can face resistance from people who still hold on to old traditions or customs. Although policy strategies are well-designed, challenges in implementation on the ground, such as lack of human resources or inadequate infrastructure, can hinder the effectiveness of such policies. Increased social assistance and health intervention programs can create a community's dependence on government assistance, which can weaken local or non-governmental initiatives [19]. Programs that are not accompanied by equal access throughout Jember Regency can lead to disparities, where hard-to-reach areas may still experience severe stunting problems.

4. Conclusion

This study examines the dynamics of food self-sufficiency and the high rate of stunting in Jember Regency, with a focus on the effectiveness of public policies implemented. In general, this study found that although Jember Regency has achieved food self-sufficiency, this has not directly contributed to the reduction of stunting rates. This imbalance is caused by several factors, including uneven food distribution, inadequate nutritional quality, and non-food factors such as poor sanitation and early marriage. The implications of these findings emphasize the importance of adopting a more holistic and cross-sectoral policy approach. Efforts to reduce stunting in Jember must be integrated with food security policies that pay attention to nutritional quality, as well as effective health and education programs. Local governments need to strengthen coordination between sectors and involve communities in policy implementation to ensure that the benefits of food self-sufficiency can be felt by all levels of society, especially the most vulnerable. This study has several limitations, including limitations in the scope of the area that may not be fully representative for the entire Jember Regency, as well as limitations in the number of informants that can affect the generalization of research results. Further studies with a wider scope and more diverse methods are needed to deepen the understanding of the relationship between food self-sufficiency and stunting in various contexts.

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