



Implementing stunting prevention through independent Food Security

Wahyu Purwaning, Sri Hartini Jatmikowati, Yuntawati Fristin

University of Merdeka Malang, Malang, Indonesia

Abstract

Stunting is a national health priority. Stunting in Indonesia remains a serious challenge that impacts the quality of human resources. Based on the Indonesian Nutritional Status Survey, the prevalence of stunting in Indonesia in 2024 was 19.8%. In Malang Regency, the stunting rate reached 23.5% in 2024, posing a significant challenge. Research: This study uses a descriptive, qualitative approach. The theory used in this study is the theory of public policy implementation based on the Edward III Model. Data collection techniques included interviews, observation, and documentation. Data analysis techniques used an interactive field data analysis model. The objectives of this study are: to describe and analyze the implementation of stunting prevention based on Malang Regent Regulation Number 33 of 2018, About Stunting Prevention Efforts, and to describe and analyze supporting and inhibiting factors in the implementation of stunting prevention through independent food security in Karangpandan Village, Pakisaji District, Malang Regency. The results of the study indicate that the Karangpandan Village Government and the residents/Community of Karangpandan Village implement stunting prevention through independent food security in the village. Independent food security activities carried out by the Karangpandan Village Government are Greenhouse Melon Premium Activities, Goat Fattening Activities, and Activities during the Mutual Cooperation Month. Independent food security activities carried out by the residents/Community of Karangpandan Village include utilizing home yards. Supporting factors for stunting prevention through independent food security in Karangpandan Village include the Village Fund Budget, BUMDes, Linmas, and Pokmas as activity implementers; assistance from Kominfo in the form of Internet of Things (IoT) Solution Services for Green House Melon Premium activities; and active community involvement in utilizing home yards. Inhibiting factors for stunting prevention through independent food security in Karangpandan Village are limited resources, lack of awareness, knowledge, and skills of residents/community in utilizing home yards, marketing of harvests, limited land, poor soil quality, extreme weather and climate change, pest and disease control, busyness and free time, lifestyle changes, and nutritional awareness.

Keywords: Stunting prevention, government policy, independent food security

Introduction

Stunting is a serious challenge for Indonesia because it impacts the quality of human resources. Stunting is a condition of stunted growth in children caused by chronic, long-term malnutrition. Malnutrition not only hinders a child's physical growth but also impacts brain development and future potential. The UNICEF framework states that the causes of malnutrition are disease and inadequate nutritional intake in children. These two factors are closely related to family parenting patterns, children's diets, health services, and environmental sanitation. However, the underlying causes are individual and family-based.

According to the Indonesian Nutritional Status Survey, the stunting prevalence in Malang Regency in 2024 reached 23.5%, posing a significant challenge for the regency. This represents a 4% increase from 19.5% in 2023. Malang Regency has a stunting prevalence well below the average in East Java Province, at 14.7%. In 2024, the difference in stunting prevalence between East Java Province and Malang Regency is 8.7%.

The government's commitment to reduce the stunting rate to 14.4% in 2029 and 5% in 2025 has been stated in the 2025-2045 RPJPN. The government reduced the stunting rate by 9.3% over five years, from 30.8% in 2018 to 21.5% in 2023. Experience in implementing stunting prevention and reduction from 2018 to 2024 is a very valuable lesson for improving program implementation. The government continues to implement well-running programs and improve those that are not running well.

Article 6 of Malang Regent Regulation Number 33 of 2018 explains that efforts to prevent stunting can be carried out through specific and sensitive nutrition interventions. Sensitive nutrition interventions are interventions from various development activities outside the health sector. Sensitive nutrition interventions target the community, especially families. One such intervention is implementing activities to improve food and nutrition security.

Food diversification efforts under Article 26 of Government Regulation Number 17 of 2015 concerning Food Security and Nutrition, one of which is optimizing land use. The Food Security Agency (BKP), through the Center for Consumption Diversification and Food Security, has implemented Sustainable Food Home Area (KRPL) Activities from 2010 to 2019 (Government Regulation Number 17 of 2015 concerning Food Security and Nutrition, 2017).

The use of home gardens, or nutritional gardens created in residents' yards, has significant meaning beyond providing quality plant-based food; they are also a source of family income. Home gardens can be planted with vegetables, fruits, herbs, and medicinal plants. The harvest from home gardens/nutrition gardens, in the form of vegetables and fruits, can meet families' and residents' vitamin, mineral, and fiber needs, so they do not need to buy them. The benefits of home gardens include food independence to fulfill family nutrition, Conservation of food crops namely plantations and horticulture in the future, the welfare of farmers and residents/communities, can utilize village seed

gardens to ensure the fulfillment of the needs of residents/communities who use yards related to plant seeds, as well as anticipation in facing the impacts of climate change.

The purpose of this study is to describe and analyze the implementation of stunting prevention through independent food security in Karangpandan Village, Pakisaji District, Malang Regency, in accordance with Malang Regent Regulation Number 33 of 2018 concerning Stunting Prevention Efforts. To describe and analyze the supporting factors and inhibiting factors of the implementation of stunting prevention through independent food security in Karangpandan Village, Pakisaji District, Malang Regency, based on Malang Regent Regulation Number 33 of 2018 concerning Stunting Prevention Efforts.

Research on stunting prevention through independent food security is expected to provide theoretical benefits; it is hoped that this research will be helpful and contribute ideas for the Karangpandan Village Government and researchers in preventing stunting through independent food security. In practice, it provides solutions to problems that hinder stunting prevention through independent food security in Karangpandan Village, Pakisaji District, Malang Regency, in accordance with Malang Regent Regulation Number 33 of 2018 concerning Stunting Prevention Efforts.

Literature Review

According to the Decree of the Minister of Health Number 1995/MENKES/SK/XII/2010 concerning anthropometric standards for assessing children's nutritional status, the definition of short and very short is a nutritional status based on the Length for Age (PB/U) or Height for Age (TB/U) index which is the equivalent of the terms stunted (short) and severely stunted (very short). (Ministry of Health of the Republic of Indonesia, 2016). Stunting is an appropriate indicator of long-term malnutrition in children (Fikawati *et al.*, 2017; World Bank, 2006) [13]. Wamani *et al.* (2007) stated that stunting can be a strong proxy for health disparities among children. This is because stunting describes various dimensions of a child's health, development, and living environment.

The characteristics of stunting according to the Ministry of Villages, Development of Disadvantaged Regions and Transmigration (2017) are signs of late puberty, poor performance on attention and learning memory tests, late tooth growth, reduced function of saliva as a buffer, cleaner, anti-solvent, and antibacterial for the oral cavity, at the age of 8-10 years the child becomes quieter, does not make much eye contact, growth slows. The face looks younger than his age.

The short-term negative impacts of nutritional problems in toddlers include impaired brain development and intelligence, impaired physical growth, and metabolic disorders. Meanwhile, in the long term, the negative consequences that can be caused are decreased cognitive abilities and academic achievement, decreased immunity resulting in susceptibility to illness, and a high risk of developing diabetes, obesity, heart and blood vessel disease, cancer, stroke, and disability in old age, as well as uncompetitive work quality resulting in low economic productivity (Ministry of Health of the Republic of Indonesia, 2016).

According to the Ministry of Health (2017), three factors must be considered in preventing stunting: improving diet, parenting practices, and sanitation and access to clean water. The problem of stunting is influenced by low access to food in terms of quantity and nutritional quality, and often a lack of variety. The term "Isi Piringku" should be introduced and made a habit in everyday life to promote balanced nutrition. In one meal portion, half the plate is filled with vegetables and fruit, and the other half with protein sources (both plant and animal), with a proportion greater than carbohydrates. Behavioral factors can influence stunting, especially in poorly fed toddlers. Access to sanitation and clean, high-quality water reduces the risk of infectious diseases. Therefore, it is necessary to get used to washing hands with soap and running water, and not defecating in just any place. Article 6 of Malang Regent Regulation Number 33 of 2018 states that stunting prevention can be achieved through targeted and sensitive nutritional interventions. Specific nutritional interventions are interventions for children, especially toddlers, adolescent girls, women of childbearing age, pregnant women, and breastfeeding mothers. Specific nutritional interventions are implemented through the health sector and are short-term. Sensitive nutritional interventions are interventions through development activities outside the health sector for target groups in the general public, especially families. One of the sensitive nutritional intervention activities is to improve family food and nutrition security. By utilizing yards, it is hoped that communities can achieve independent food security, enabling them to meet nutritional needs and support family welfare.

Self-Sufficient Food Security is the concept that an individual, household, community, or country can meet its food needs sustainably and without excessive dependence on others. This encompasses the availability, accessibility, utilization, and sustainability of food at the local level. Self-sufficient food security is a state in which a family's food needs are met, achieved through the availability of sufficient, high-quality, safe, evenly distributed, and affordable food sourced from domestic production (Soetrisno, 2007).

Sustainable Food Yard (P2L) activities aim to increase the availability, accessibility, and utilization of food for households, in line with diverse, nutritionally balanced, and safe food needs, and are market-oriented to increase household income. To achieve these efforts, P2L activities are carried out through a sustainable agriculture development approach, the utilization of local resources (local wisdom), community empowerment (community engagement), and a marketing orientation (go-to-market). Sustainable Food Yard (P2L) activities empower community groups to cultivate various types of plants through nursery activities, demonstration plots, planting, and post-harvest and marketing. Sustainable Food Yard (P2L) activities can be carried out on idle land and/or unproductive vacant land, and/or land around houses/residential buildings/public facilities, as well as other environments with clear ownership boundaries, such as dormitories, Islamic boarding schools, flats, places of worship, and others. Sustainable Food Yard (P2L) activities are implemented through the Growth Stage, Development Stage, and Guidance Stage.

Method

1. Research Approach

This study uses a qualitative method to describe and illustrate the progress of implementing stunting prevention policies through independent food security, based on Malang Regent Regulation Number 33 of 2018 concerning Stunting Prevention Efforts.

2. Scope of Research

The scope of this research relates to independent food security in implementing Malang Regent Regulation Number 33 of 2018 concerning Stunting Prevention Efforts. The Malang Regency Food Security Office implements food security activities. The location selection is based on data from the Malang Regency Health Office. The prevalence of stunting in Malang Regency in 2024 increased by 4% compared to the previous year.

3. Research Location

The research business location is in Karangpandan Village, Pakisaji District. The business location was selected purposively. The business location was determined based on data from the Pakisaji Community Health Center. This data indicates that stunting persists in toddlers and that the number of stunted toddlers has increased in 2024 in Karangpandan Village, Pakisaji District.

4. Research Focus

There are 2 research focuses, namely the implementation of stunting prevention through independent food security in Karangpandan Village, Pakisaji District, Malang Regency, based on Malang Regent Regulation No. 33 of 2018 concerning Stunting Prevention Efforts. This research uses Edwards III theory, which includes 4 (four) indicators, namely: communication, resources, disposition, and bureaucratic structure. The next research focus is the supporting and inhibiting factors in the implementation of stunting prevention policies through independent food security in Karangpandan Village, Pakisaji District, Malang Regency, including internal and external factors.

5. Sampling Techniques

In this study of Stunting Prevention through Independent Food Security, a non-probability sampling technique was used, in which the sample was selected without regard to chance. To determine the research informants, a purposive sampling method was used, selecting the sample from various data sources. Interviews with informants from the Pakisaji Health Center were conducted to collect data on stunting rates and their prevention. Interviews with informants from the Food Security Office to obtain data related to the Sustainable Food Yard (P2L) activities. Interviews with informants from Karangpandan Village to obtain data on the village's efforts/activities to prevent stunting through independent food security. Interviews with home yard users were conducted to collect community data on the obstacles/constraints they experienced in maximizing the use of home yards toward independent food security.

6. Data Types and Sources

This study, "Stunting Prevention Through Independent Food Security," utilizes qualitative data, presented in words rather than numbers. The data used comprises primary and secondary data. In-depth interviews were also conducted

with research subjects, including Karangpandan Village Government staff and yard users, and written notes and documentation were collected through direct questioning and answer sessions on the implementation of a P2L program policy. Secondary data in this study include books, previous research, literature, library materials, and other sources.

7. Data collection technique

The data collection techniques used in this research are interviews, observation, and documentation.

8. Data Analysis Techniques

This research on Stunting Prevention through Independent Food Security uses interactive model data analysis from Miles, Huberman, and Saldana (2014: 1214) ^[22].

Results and Discussion

1. Result

Family well-being can be achieved by implementing independent food security. Utilizing land/yards can be a solution to improving family food security. Some residents of Karangpandan Village implement independent food security by utilizing their yards. The focus of this research, "Stunting Prevention through Independent Food Security," is:

1.1. Implementation of stunting prevention through independent food security

Family well-being can be achieved by independently implementing food security. Utilizing land/yards can be a solution to improving family food security. Some residents of Karangpandan Village are implementing independent food security by utilizing their yards.

The Karangpandan Village Government has not yet implemented food security activities optimally due to budget and human resource limitations. Regarding the budget, food security activities can be allocated to the Village Fund Budget, provided they do not exceed 20% of the Village Fund Budget. Therefore, in the Month of Mutual Cooperation program, not all residents can receive assistance with planting seeds. Likewise, for the Premium Melon Green House and Goat Fattening activities, the Karangpandan Village Government has not been able to provide additional funds to maintain the quality of the harvest. Regarding human resources, further technical guidance is needed for the managers of the Premium Melon Green House and Goat Fattening activities, especially for the Premium Melon Green House.

The Karangpandan Village community's knowledge of home gardening remains limited, underscoring the need for human resource development. The Karangpandan Village Government needs to conduct outreach and technical guidance on the use of home gardens for family food security. Self-sustaining food security can meet family nutritional needs, improve family income, and create family prosperity.

Karangpandan Village Food Security Activities, namely the Premium Melon Greenhouse and Goat Fattening, are managed by the Village-Owned Enterprise (BUMDes) in collaboration with POKMAS GLORIA and LINMAS. In carrying out their duties, despite limited budget and human resources, the management always strives to realize the success of the activities. This is done by carrying out duties

with seriousness, always coordinating, and by having the person in charge of the activities submit activity reports to the Village Head periodically.

The Mutual Cooperation Month (MKB) program received overwhelming support from residents. The Mutual Cooperation Month program, which involved providing vegetable seedlings, including chilies, tomatoes, and eggplants, along with the appropriate planting medium, was highly beneficial. This program resulted in a more beautiful environment and, most importantly, enabled the crops to be shared with the surrounding community, indirectly reducing daily expenses. Seeing these benefits, residents diligently cared for the plants to ensure a bountiful harvest.

The Mutual Cooperation Month (MWB) in Karangpandan Village is held annually in May. The Month's agenda includes distributing vegetable seedlings and planting media to residents. Residents are only responsible for caring for the plants. Due to budget constraints, not all residents or their neighborhoods receive assistance from this program. Only those willing to provide care are provided.

Residents of Karangpandan Village are aware of utilizing their yards for independent food security. Independent food security is a key factor in family well-being. They use their yards at their own expense, without assistance from any third parties.

Food security activities in Karangpandan Village are allocated to the Village Fund Budget, with their use limited to 20% of the total budget. Food security activities in Karangpandan Village include the Premium Melon Greenhouse and Goat Fattening. The management of both activities is handed over to the Village-Owned Enterprise (BUMDes) in collaboration with the Community Group (Pokmas) and Community Protection Unit (Linmas), with 30 members. The reason for handing these activities over to the BUMDes is that the delegation of the Village Fund Budget requires clear accountability. In addition to the two activities mentioned above, other activities that support secucommunity's food security include

1.2. Supporting and inhibiting factors for the implementation of stunting prevention policies through independent food security

Internal supporting factors for food security activities carried out by the Karangpandan Village Government, namely the Premium Melon Green House Activity, Goat Fattening Activity, and Mutual Cooperation Month Activity, include the existence of the Village Fund Budget and BUMDes, as well as Linmas and Pokmas as the implementing agencies.

An internal supporting factor for implementing independent food security for the Karangpandan Village community/residents through the use of their yards is the community's active involvement in using their yards, driven by personal desire. Without assistance, the community/residents strive to improve their welfare by using their yards to achieve food security, in an effort to meet family food needs independently.

The external supporting factors for the food security activities of the Karangpandan Village Government, namely the Premium Melon Green House Activity, Goat Fattening Activity and the Mutual Cooperation Month Activity are the Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia Number 8 of 2022 Concerning Priority Use of

Village Funds in 2023, where in article 6 it states that one of the uses of Village Funds is for plant and animal food security activities as well as for prevention and reduction of Stunting activities.

Another supporting factor in the Green House Melon Premium activity is the assistance from the Ministry of Communication and Information in the form of Internet of Things (IoT) Solution Service Assistance for Horticultural Greenhouses, in 2024. The external supporting factor for the implementation of independent food security for the people/residents of Karangpandan Village through the utilization of home yards is the activity during the Mutual Cooperation Service Month carried out by the Karangpandan Village Government, which provides plant seeds to residents/residents' environments.

Internal inhibiting factors in the Food Security activities of the Karangpandan Village Government, namely the Premium Melon Greenhouse Activity and the Goat Fattening Activity, are limited human resources, resulting in suboptimal activity outcomes. Internal inhibiting factors in implementing independent food security for the community/residents of Karangpandan Village through the use of home yards include a lack of awareness, knowledge, and skills, as well as limited community capital to utilize home yards.

External inhibiting factors for independent food security activities in Karangpandan Village are marketing of harvested produce due to the high competition that results in the absence of regular customers and sales at certain times, limited land, poor soil quality, extreme weather and climate change, pest and disease control, busy leisure time, lifestyle changes, and nutritional awareness.

2. Discussion

2.1. Implementation of stunting prevention through independent food security

Stunting prevention efforts through independent food security in Karangpandan Village are being implemented by the government and the village's residents. Using Village Funds, Karangpandan Village implements three activities to support food security. These food security activities are managed by the Village-Owned Enterprise (BUMDes) in collaboration with Linmas (Community Protection Agency) and Community Groups (Pokmas).

The stunting prevention activity through independent food resilience, implemented by the Karangpandan Village Government, is the Premium Melon Greenhouse Activity. In implementing the Premium Melon Green House activity, the Karangpandan Village government has provided technical guidance on premium melon farming, processing, and the operational methods of the Internet of Things (IoT) Solution Service system to the Premium Melon Green House managers. The Internet of Things (IoT) Solution Service is a fertilization and irrigation system controlled via an internet network, so that fertilization and irrigation, including timing, dosage, and application, occur automatically. The Internet of Things (IoT) Solution Service Assistance for this Horticultural Greenhouse was provided by the Karangpandan Village Ministry of Communication and Information in 2024.

Despite limited budget and human resources, the management consistently strives to ensure the project's success. This is achieved by diligently carrying out tasks, consistently coordinating, and regularly reporting activities to the Village Head.

In 2025, the management of Javanese goat fattening activities will be handed over to the Village-Owned Enterprises (BUMDes) and the Community Protection Agency (Linmas). Goat suppliers have provided technical guidance to the managers of goat fattening activities. This technical guidance relates to proper goat care and maintenance, including feeding, vaccination, and hygiene. The Mutual Cooperation Month activity in Karangpandan Village is held annually in May. The agenda for the Mutual Cooperation Month activity is to distribute 300 vegetable seed packets (chili, eggplant, tomato) along with planting media (soil, polybags, shelves) to residents. Residents only need to care for them. Due to budget constraints, not all residents/neighborhoods receive assistance from this activity. Only residents who are willing to care for the plants are assisted. During the Mutual Cooperation Month activity, the Karangpandan Village Government urges residents to care for the plants given so they can benefit the community. The residents of Karangpandan Village are utilizing their yards to prevent stunting through independent food security. Residents use their yards for independent food security as a stunting-prevention measure. By utilizing their yards, residents can meet nutritional needs and increase family income, thereby improving their well-being. The harvest can be consumed at home, eliminating the need to purchase it. Furthermore, the harvest can also be sold. The proceeds from the sale of the harvest can be used to purchase fruit, meat, milk, and other necessities. This is done to improve dietary habits, ensure family nutrition, and prevent stunting. Families are key to the success of stunting prevention efforts. Prosperous families can meet all family needs, resulting in healthy family members and a healthy generation.

2.2. Supporting factors and inhibiting factors in the implementation of stunting prevention through independent food security

Internal supporting factors for activities carried out by the Karangpandan Village Government include the Village Fund Budget and the Village-Owned Enterprises (BUMDes), as well as Linmas and Pokmas, the implementing agencies. Internal supporting factors for implementing independent food security for the Karangpandan Village community/residents through the utilization of home yards include active community involvement in home-yard use.

External supporting factors in the food security activities of the Karangpandan Village Government are the Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia Number 8 of 2022 Concerning Priority Use of Village Funds in 2023. Article 6 states that the use of the Village Fund Budget includes activities for plant and animal food security as well as for the prevention and reduction of stunting. Assistance from the Ministry of Communication and Information for the Premium Melon Green House in the form of Internet of Things (IoT) Solution Services for the Horticultural Green House in 2024. External supporting factors in food security through the utilization of home yards by residents of Karangpandan Village include activities during the Mutual Cooperation Service Month carried out by the Karangpandan Village Government, which include the provision of plant seeds to residents.

Internal inhibiting factors in the Karangpandan Village Government's Food Security activities include limited human resources, which have led to suboptimal outcomes. There is also a lack of awareness, knowledge, skills, and capital for utilizing home gardens. External inhibiting factors in the Karangpandan Village's independent food security activities include harvest marketing, limited land, poor soil quality, extreme weather and climate change, pest and disease control, busy schedules and free time, lifestyle changes, and nutritional awareness.

This research on Stunting Prevention through Independent Food Security is in accordance with the theory of public policy implementation, as outlined by Edwards III, and includes the following indicators: communication, which occurred when the Karangpandan Village Government provided technical guidance to the managers of the Premium Melon Green House and Goat Fattening Activities. In addition, communication occurred when the Karangpandan Village Government appealed to villagers who received assistance from the Mutual Cooperation Month activities to care for the plants.

Implementers and the Village Fund Budget support the independent food security activities implemented by the Karangpandan Village Government. The activities utilizing home gardens are carried out by residents who have the skills to manage their yards. The managers of the food security activities implemented by the Karangpandan Village Government demonstrate their responsibility through their commitment to implementing the activities and consistent reporting. Likewise, despite their limitations, the residents strive to achieve food security through the effective use of their home gardens.

Karangpandan Village has the authority to carry out food security activities in accordance with the Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia Number 8 of 2022 concerning Priorities for the Use of Village Funds in 2023. BUMDes, Pokmas, and Linmas manage the implementation of food security activities by the Karangpandan Village Government.

This research on Stunting Prevention through Independent Food Security is also relevant to the research of Tjenemundan, Delfince, et. al. (2024) [7] entitled Stunting Prevention through Strengthening Food Security with Active Participation Methods in the Kumpi Village Community, Lembo District, North Morowali Regency, where the focus of the research is to provide public education about stunting prevention by strengthening food security. The results of the research show that stunting prevention can be achieved through a program (utilizing home yards for cultivation). With the implementation of this program, the problem of stunting can be overcome by increasing food security and support from the local environment.

Conclusion

This study concludes that the implementation of stunting prevention policies through independent food security in Karangpandan Village, Pakisaji District, Malang Regency has been carried out in a participatory and contextual manner, in accordance with the mandate of Malang Regent Regulation Number 33 of 2018. The village government, together with the community, was able to translate the policy into concrete programs based on local potential, such

as the development of premium melon greenhouses, goat fattening, cooperation service month activities, and optimizing the use of home yards as a source of nutritious food. This practice shows that the independent food security approach plays a strategic role as a nutrition-sensitive intervention in stunting prevention at the village level.

The effectiveness of policy implementation has not been fully optimized due to various inhibiting factors, particularly resource limitations, limited community knowledge and skills, constraints on food marketing, limited land and soil quality, and challenges posed by climate change and nutrition awareness. These factors indicate that the success of stunting prevention is determined not only by the availability of programs and budgets but also by the quality of policy communication, the readiness of resources, and consistent community support. Therefore, this study confirms that strengthening independent food security needs to be integrated with community capacity building and cross-sectoral support to ensure the implementation of stunting prevention policies has a more sustainable impact on reducing stunting prevalence at the local level.

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