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Percepatan Penurunan Stunting: Rekomendasi Kebijakan yang Memanfaatkan Sektor Peternakan

Accelerating Stunting Reduction: Policy Recommendations Leveraging the Livestock Sector

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ABSTRAK

Studi ini menganalisis prevalensi stunting, mengidentifikasi penyebab khusus, dan mengembangkan rekomendasi kebijakan berbasis sektor peternakan untuk mempercepat pengurangan stunting di Kutai Timur, Indonesia. Studi ini menggunakan tinjauan literatur sistematis (SLR) dari basis data Scopus dan Sinta (2017-2025) dengan langkah-langkah serupa PRISMA untuk seleksi dan sintesis naratif. Di Kutai Timur, stunting disebabkan oleh kombinasi malnutrisi kronis, penyakit berulang, dan faktor sosioekonomi seperti pengangguran dan kurangnya pemahaman orang tua. Protein hewani, terutama dari ayam broiler dan telur, terbukti krusial untuk perkembangan anak dan memiliki korelasi langsung dengan penurunan stunting. Bisnis ternak di wilayah ini memiliki potensi besar, berkat pasar domestik yang kuat, sinergi dengan perkebunan kelapa sawit, dan program pertanian inovatif. Namun, hambatan akses meliputi kekurangan bibit ternak, produktivitas yang rendah, harga pakan yang mahal, dan masalah distribusi. Pemerintah daerah menunjukkan komitmennya melalui kolaborasi multipihak, bimbingan data “by name by address”, dan inisiatif penciptaan lapangan kerja. Kebijakan pengembangan ternak lokal juga diterapkan. Rekomendasi kebijakan utama meliputi: (1) meningkatkan produksi dan produktivitas ternak lokal untuk gizi; (2) memperkuat rantai pasok lokal, termasuk subsidi untuk keluarga rentan; (3) pemberdayaan komunitas dan pendidikan gizi tentang hewan; dan (4) meningkatkan kolaborasi multipihak. Tujuan implementasi terintegrasi adalah mengurangi stunting dan mencapai ketahanan pangan jangka panjang.

Kata kunci: determinan sosio-ekonomi, gizi, protein hewani, rantai pasok, tanpa kelaparan

ABSTRACT

This study examines stunting prevalence, identifies particular causes, and develops livestock sector-based policy recommendations to expedite stunting reduction in Kutai Timur, Indonesia. It used a Systematic Literature Review (SLR) of the Scopus and Sinta databases (2017-2025) with PRISMA-like steps for selection and narrative synthesis. In Kutai Timur, stunting is caused by a combination of chronic malnutrition, recurring illnesses, and socioeconomic factors like as unemployment and a lack of

parental understanding. Animal-sourced protein, particularly from broiler chickens and eggs, has been shown to be crucial for child development and has a direct correlation with reduced stunting. The region's cattle business has great potential, thanks to a strong domestic market, mutualism with palm oil fields, and innovative farming programs. However, barriers to accessibility include a lack of breeding stock, inadequate productivity, expensive feed prices, and distribution concerns. The local government exhibits its commitment through multi-party collaboration, "by name by address" data coaching, and employment creation initiatives. Local livestock development policies are also implemented. Key policy recommendations include: (1) increasing local livestock production and productivity for nutrition; (2) strengthening local supply chains, including subsidies for vulnerable families; (3) community empowerment and nutrition education on animal; and (4) improving multi-party collaboration. The goal of integrated implementation is to reduce stunting and achieve long-term food security.

Keywords: *animal protein, nutrition, socio-economic determinants, supply chain, zero hunger*

INTRODUCTION

Stunting is a long-term nutritional condition with major consequences for human resource quality. This disorder not only stunts a child's physical growth, but it also inhibits cognitive development, weakens the immune system, and, eventually, diminishes individual output in adulthood (Ali Mashar et al., 2021). Stunting is more than just a health issue; it has far-reaching social and economic consequences, such as long-term decreases in scholastic achievement and economic production (Rahma & Mutalazimah, 2022).

At the national level, the government continues to be concerned about the prevalence of stunting in Indonesia. Although there has been a reported drop from 27.7% in 2019 to 24.4% in 2021 and then to 21.6% in 2022, the World Health Organization's (WHO) target of less than 20% has yet to be fully met. The Indonesian government has set lofty goals for reducing stunting prevalence to 17% by 2023 and 14% by 2024 (Komalasari et al., 2020).

However, the most recent data from the 2023 Indonesian Health Survey (SKI) reveal a nationwide increase in stunting prevalence, from 16.4% in 2022 to 18% in 2023. This variability suggests that the rate of stunting reduction is not necessarily linear and can be impacted by a variety of complicated factors like as changes in survey methods, socioeconomic shocks, or emerging new difficulties. This emphasizes the significance of ongoing monitoring, adaptable policy responses, and acknowledging that progress might be fragile. For local contexts like East Kutai Regency, this circumstance emphasizes the importance of maintaining attention and critically analyzing local data—even when good trends are observed—to avoid future setbacks and promote long-term improvement (Ministry of Health of the Republic of Indonesia, 2023).

East Kutai Regency has shown strong commitment and significant progress in expediting stunting reduction efforts, as seen by different initiatives and policies enacted by the local government. This early result establishes a solid foundation for further investigation. The purpose of this article is to study the most recent stunting prevalence data in East Kutai Regency, identify specific variables leading to stunting in the region, and provide novel and focused policy recommendations, particularly

those related to livestock sector development. This technique is intended to help accelerate stunting reduction in East Kutai.

METHODOLOGY

This study used a systematic literature review (SLR) technique to assess the incidence of stunting and develop policy suggestions for the livestock sector in East Kutai Regency. This method was chosen because it enables the synthesis of information from a variety of relevant scientific sources, gives a thorough overview of the topic under consideration, and promotes evidence-based policy making (Simamora & Gaffar, 2024).

The literature search was carried out in important scientific databases, such as Scopus and Sinta, to confirm the sources' quality and relevance. The keywords included in the search were "stunting", "Kutai Timur", "livestock", "nutrition", "policy", "prevalence", "risk factors", "intervention", and "Indonesia". The articles evaluated for this review met the following inclusion criteria: Published in scientific journals indexed by Scopus or Sinta, with publication dates spanning 2017 to 2025. Focus on stunting prevalence, causal factors, nutrition treatments, the role of the livestock industry, or policy analysis connected to stunting in Indonesia, particularly in plantations or rural areas, and make the whole text available. Articles were excluded if they did not fulfill the aforementioned criteria or if their content did not directly relate to the research objectives.

The article selection process is similar to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method, which is often used in SLRs. Identification: Articles are discovered by a preliminary search in databases using predetermined keywords. Screening: The titles and abstracts of the identified articles are reviewed to determine their relevancy. Eligibility: Articles that pass the screening are downloaded and reviewed in full to determine eligibility based on inclusion and exclusion criteria. Inclusion: This review includes articles that meet all of the inclusion criteria (Imelda & Mukhtaruddin, 2025).

The selected publications provided statistics on stunting prevalence, particular risk factors, types of successful interventions, the importance of the livestock sector in nutrition, and related policies and initiatives. This data was then compiled and evaluated narratively to find trends, gaps, and policy recommendations. Policy analysis was carried out by taking into account the various stages of policy formulation.

RESULT AND DISCUSSION

The Potential Role of the Livestock Sector in Nutritional Interventions

Animal protein is an important ingredient in the diet, especially for youngsters, because it contains vital amino acids that the body cannot make on its own. These amino acids are required for muscle and bone development, as well as proper immune system function, all of which contribute to children's general growth and development. Insufficient animal protein consumption can drastically impair children's growth and development.

The livestock sector has a huge potential to help the community meet its demand for high-quality, cheap animal protein. Livestock products such as broiler chickens, eggs, meat, and milk are excellent sources of animal protein for combating malnutrition and stunting, especially in places where other protein sources are limited. As a result,

developing the livestock sector can be a crucial method for improving community nutrition.

Latest Data and Trends in Stunting Prevalence (2024-2025)

According to the results of the Indonesian Health Survey (SKI) / Indonesian Nutrition Status Survey (SSGI) conducted by the Ministry of Health of the Republic of Indonesia in 2024, the prevalence of stunting in Kutai Timur Regency has decreased significantly, from 29% to 20.6% in 2025. It is crucial to highlight that the 20.6% statistic for 2025 is most likely a prediction or objective based on survey results from 2024, rather than actual prevalence data collected in 2025. This dramatic decrease over a year demonstrates the success of the local government's initiatives and synergies (Ministry of Health, 2024).

In addition to prevalence data, the number of Stunting Risk Families in Kutai Timur has been decreasing, as tracked by the Ministry of Population and Family Development/National Population and Family Planning Agency's Family Information System Elsimil. Stunting Risk Families data reveals a steady drop, offering a more definite picture of the program's effectiveness. The number of families at risk of stunting decreased from 19,900 in the second semester of 2023 to 11,973 in the second semester of 2024. 1 demonstrates that upstream interventions aimed at addressing the underlying causes and risk factors of stunting are starting to show results. This suggests that Kutai Timur's strategy, which focuses on multi-stakeholder engagement and data-driven support, not only reduces the appearance of stunting but also actively eliminates its underlying dangers, resulting in more durable long-term effects (Ministry of Health, 2024).

Table 1. Trends in Stunting Prevalence and Families at Risk of Stunting in East Kutai Regency (2023-2025)

Year/Periode	Prevalence of Stunting (%)	Number of Families at Risk of Stunting
Semester II 2023	-	19,900
Semester I 2024	-	15,576
September 2024	-	12,362
Semester II 2024	-	11,973
2024	29%	-
2025	20.6% (Projections SSGI 2024)	-

Source: Ministry of Health (2024) & (National Population and Family Planning Agency, 2024)

Specific Factors Causing Stunting in Kutai Timur

Stunting is usually caused by a complex combination of persistent starvation, frequent illnesses, and unfavorable environmental factors. These factors frequently compound one another, resulting in a difficult-to-break cycle of starvation and disease (Ali Mashar et al., 2021). At the national level, common causes of stunting include inadequate nutritional intake (including maternal malnutrition before and during pregnancy), low birth weight (LBW), a lack of exclusive breastfeeding, poor complementary feeding practices, poor maternal health, unsanitary environments (including limited access to clean water and sanitation), poverty, low maternal

education and knowledge, and broader socioeconomic inequalities (Komalasari et al., 2020; Rahma & Mutalazimah, 2022; Saputri et al., 2021).

A 2021 study conducted in Sangatta on children aged 6-59 months discovered numerous characteristics that were substantially associated with stunting: male sex, absence of exclusive breastfeeding, low birth weight (LBW), and low maternal awareness (Syafiie & Sarangnga, 2023). The study also indicated that income level was a confounding variable (Kurniadi, 2019). These data indicate that a "one-size-fitsall" strategy for stunting therapies is ineffective. Local epidemiology data is critical for determining the most prevalent and significant variables in a given geographic area. For example, the discovery that male sex is a risk factor in Sangatta is extremely specific and may not be applicable worldwide, but it is crucial for designing programmes in Kutai Timur (Pangestuti et al., 2023; Sihotang et al., 2023).

Given Kutai Timur's important plantation sector, research findings from Muaro Jambi's palm oil plantation areas are also relevant. The study discovered that Chronic Energy Deficiency (CED) in pregnant women is substantially connected with stunting (Soliman et al., 2021). This identifies a distinct nutritional risk among plantation-related groups, implying that nutrition assistance programs for pregnant women in Kutai Timur's plantation communities could have a major impact.

The Kutai Timur district government has specifically mentioned economic hardship owing to unemployment as a major underlying cause of stunting. As part of stunting prevention initiatives, the local government highlights the importance of firms, particularly those engaged in Kutai Timur's mining and plantation sectors, in producing jobs for local residents. This suggests a more complex causation route in which socioeconomic disadvantages, such as poverty and unemployment, serve as primary drivers (Rahmadani et al., 2023). These limits limit households' access to nutritious food, clean water, and adequate sanitation. Simultaneously, lower education levels, particularly among mothers, are frequently associated with less awareness of ideal diet, cleanliness, and child-rearing techniques. These socioeconomic hurdles manifest directly as nutritional deficiencies (e.g., insufficient intake, CED, lack of exclusive breastfeeding) and greater susceptibility to infections, which eventually lead to stunting (Nurfauziah et al., 2021; Susanti et al., 2024). The Kutai Timur government's emphasis on corporate involvement in job development demonstrates a strategic identification of these underlying socioeconomic reasons, suggesting a policy strategy that goes beyond traditional health interventions to address the deeper causes of stunting. Table 2 summarizes the specific stunting risk factors relevant to Kutai Timur.

Table 2: Specific Risk Factors for Stunting in Kutai Timur Regency

Category of Factors	Specific Risk Factors	Source Local Description/Relevance	
Nutrition & Maternal/Child Health	Chronic malnutrition	Common in Indonesia, underlying cause of stunting	(Jokhu & Syauqy, 2024)
	Inadequate nutrition intake	Common in Indonesia, especially during the first 1000 days of life	lmani & Fikawati (2023)
	Low Birth Weight (LBW)	Significant in Sangatta, Kutim (2021 study)	Hutasoit (2024)
	Lack of exclusive breastfeeding	Significant in Sangatta, Kutim (2021 study)	Simbolon & Putri (2024)
	Low maternal knowledge	Significant in Sangatta, Kutim (2021 study)	(Novianti et al., 2024)
	Chronic Energy Deficiency (CED) in pregnant women	Relevant in plantation areas, potential in Kutim	Hafid & Shoim (2023)
	Repeated infections	Common in Indonesia, worsens nutritional status	(Candra et al., 2025)
	Diseases hindering nutrient absorption (e.g., TB, anemia)	Common in Indonesia	Gao et al. (2023)
Environment & Sanitation	Poor sanitation and limited clean water access	Common in Indonesia, triggers infections and disrupts nutrient absorption	(Rizaldi et al., 2025)
Socio-Economic	Poverty and inequality	Common in Indonesia, limits access to nutritious food	Rizal & van Doorslaer (2019)
	Unemployment / Economic incapacity	Identified as a major factor in Kutai Timur	Tekeba et al. (2023)
	Low maternal education level	Common in Indonesia	(Novianti et al., 2024)
Other	Male gender	Significant in Sangatta, Kutim (2021 study)	(Thompson, 2021)
	Pesticide exposure	Identified as a risk factor in some regions	(Kartin et al., 2019)

Importance of Animal Protein in Child Nutrition

Animal protein is a vital source of macro-nutrients, providing essential amino acids that cannot be synthesized by the human body. These amino acids serve as the building blocks for muscle, bone, and other tissues, and play a crucial role in immune

system development and function in children. A deficiency in animal protein can hinder optimal growth and development, ultimately contributing to stunting (Golden, 2009).

Research shows that increased consumption of animal protein directly correlates with reduced stunting prevalence. This is due to the availability of essential nutrients that support linear growth and cognitive development. Adequate animal protein intake ensures children receive all necessary amino acids for optimal growth and development (Haryani et al., 2023).

Empirical case studies further reinforce the role of animal protein. For example, providing additional animal protein (such as eggs) to stunted children over a certain period significantly improved their energy, protein, fat, and carbohydrate intake, leading to increased weight and height. Conversely, low animal protein consumption has consistently been identified as a major risk factor for stunting. This confirms that interventions focusing on increasing animal protein intake are effective strategies for stunting prevention and management (Endrinikapoulos et al., 2023).

Case Studies and Empirical Evidence of Livestock's Role in Reducing Stunting

In Indonesia, broiler chickens stand out as the most consumed source of animal protein due to their affordability and high protein content. This makes them a highly potential solution for meeting children's protein needs and directly contributing to efforts to combat malnutrition and stunting. The Indonesian government has demonstrated its commitment to leveraging the livestock sector in national nutrition programs. One key initiative is the "Free Nutritious Meals" program, which aims to meet animal protein needs from local livestock. In this program, the National Nutrition Agency acts as the primary offtaker or buyer of livestock products, expected to stabilize prices and provide incentives for local farmers. This approach reflects the central government's recognition of the livestock sector's strategic role in food and nutrition security. Specific programs like "One Day One Egg" have also been initiated as concrete efforts to reduce stunting by increasing animal protein consumption, particularly eggs, which are a dense and affordable source of nutrition.

Integrating livestock development with nutrition programs also generates strong and sustainable economic multiplier effects. The livestock industry not only provides essential protein for nutrition but also creates jobs and income, especially in rural areas, thereby contributing to poverty reduction. The "Free Nutritious Meals" program, with the National Nutrition Agency as the guaranteed buyer of livestock products, explicitly aims to improve farmers' welfare by adhering to reference purchase prices. This creates a mutually beneficial cycle: stimulating local livestock production to meet nutritional intervention needs while addressing nutritional deficiencies and improving rural socio-economic status through stable markets and increased farmer income. Better economic conditions, in turn, enable better access to nutritious food, further reducing stunting risk, while a healthier population contributes to long-term productivity gains. This strategy goes beyond welfare-based nutrition approaches, leveraging market mechanisms and economic development to achieve sustainable improvements in public health and rural livelihoods.

Potential of Local Resources and Livestock Practices

Kutai Timur Regency has a highly potential market for beef consumption, indicating significant domestic demand and promising opportunities for local beef cattle development. This market potential is a major attraction for investment and livestock sector development. There are initiatives to develop a "Livestock Circulation Model Toward Independent Farmers," focusing on improving feed quality, seeds, animal

health, control of productive female slaughter, and post-harvest and business management (Kusumastuti et al., 2015). This program, including Upsus Siwab (Special Efforts for Mandatory Pregnant Cows), aims to increase local livestock populations and productivity.

A unique potential in Kutai Timur is the symbiotic mutualism between palm oil plantation waste as livestock feed and the use of cow manure as organic fertilizer for oil palms, which has been proven to increase Fresh Fruit Bunch (FFB) yields. Such agricultural-livestock integration offers an efficient and environmentally sustainable model. The regency also has commercial breeding potential for Kalang buffalo, beef cattle, and laying hens, with investments in Kalang buffalo farming deemed highly prospective and profitable. This demonstrates diversification potential for livestock products that can be developed.

A successful case study is the village community program mentored by PT Kaltim Prima Coal (KPC) in Singa Gembara Village, Kutai Timur. Household-scale laying hen farming in this village contributes 40% of Kutai Timur's total egg needs. This program shows how initial support (seeds and feed) can empower farmers to become independent, with 45 livestock groups now operating independently. This success is tangible proof that community-based livestock development models can significantly contribute to local food security. The Kutai Timur Regency Government is also proactive in studying modern livestock practices (e.g., a visit to Cipta Visi Farm in Magelang in November 2024). This initiative aims to adopt more efficient systems and produce high-quality livestock, with hopes of application in Kutim and attracting young entrepreneurs/millennials to the sector. The existence of a Livestock Study Program at STIPER Kutai Timur indicates institutional support from local education ready to produce skilled human resources for livestock agribusiness development in the region, which is a key asset for future sector growth.

Challenges in Production, Distribution, and Accessibility of Animal Products

Despite its great potential, the livestock sector in East Kalimantan, including Kutai Timur (BPS, 2024), faces several challenges that need to be addressed. These include: insufficient basic livestock populations, low livestock production and productivity, suboptimal application of livestock technology, and inadequate livestock feed production. High feed prices are also a major complaint among farmers, which can hinder business sustainability (Y. Saputra et al., 2025).

Nationally, Indonesia still heavily relies on imports to meet animal protein needs, with a target of importing 250,000 beef cattle by 2025. This dependence poses a challenge to increasing local production and competitiveness for Kutai Timur farmers. Other challenges include low capacity of Human Resources and livestock institutions, low competitiveness of local livestock products, and commodity price fluctuations that can trigger inflation and harm farmers (Kusumawati et al., 2025). Additionally, the lack of interest among younger generations in the livestock sector is an issue that needs addressing to ensure the sector's sustainability in the future (Kamal et al., 2025).

Distribution is another obstacle. In some areas of Kalimantan, the distribution of local agricultural and livestock products is directed more toward external markets than local needs, which can affect availability and prices at the consumer level. This highlights a critical gap between production potential and equitable access to nutrition (Imelda et al., 2023). The existence of significant potential and policy intent in Kutai Timur's livestock sector does not automatically translate to broad and affordable access to nutritious animal protein for the most vulnerable households. The challenge goes beyond merely increasing production volume; fundamentally, it involves ensuring

that increased production effectively reaches local populations, especially those at risk of stunting. This requires addressing systemic issues in the supply chain, such as inefficient distribution networks and market dynamics that may favor external markets over local consumption (Silalahi & Silalahi, 2024).

Moreover, the affordability of these products for low-income families, exacerbated by factors like unemployment, remains a significant barrier (Mariyah & Nugroho, 2022). The success of the Singa Gembara Village model shows that local production can meet local needs, but its limited scale indicates this success is not yet widespread. Therefore, policy recommendations must explicitly target mechanisms to bridge this gap, ensuring that the benefits of livestock development directly translate into improved nutritional outcomes for the entire community. A lack of public understanding about the importance of consuming Safe, Healthy, Whole, and Halal (ASUH) animal-based food is also a challenge in increasing quality animal protein consumption (Tyas et al., 2022). Table 3 summarizes the potential and challenges of the livestock sector in Kutai Timur in the context of nutrition.

Table 3: Potential and Challenges of the Livestock Sector in Kutai Timur in the Context of Nutrition

Category	Aspect	Description/Detail
POTENTIAL	Market and Consumption	High beef consumption in Kutim, indicating a promising potential market.
	Local Resources & Innovation	Symbiotic mutualism between palm oil waste as livestock feed and cow manure as organic fertilizer for oil palms, improving efficiency.
		The Kutim Regency Government is proactive in studying modern livestock practices for efficiency and high quality.
	Local Production & Successful Models	Commercial breeding of Kalang buffalo, beef cattle, and laying hens is prospective.
		KPC-mentored village community successfully contributes 40% of Kutim's egg needs through household-scale laying hen farming.
	Institutional Support	The existence of a Livestock Study Program at STIPER Kutim supports agribusiness development.
CHALLENGES	Production & Productivity	Insufficient basic livestock populations, low production and productivity.
		Suboptimal application of livestock technology.
		Inadequate livestock feed production, high feed prices.
	Distribution & Accessibility	Dependence on imports to meet national animal protein needs.
		Local products tend to be distributed to external markets rather than locally.

		Low competitiveness of local livestock products and commodity price fluctuations.
Category	**Aspect**	**Description/Detail**
	Human Resources & Institutions	Low capacity of livestock HR and institutions.
		Low education levels among farmers and urbanization of young labor.
	Public Knowledge	Lack of full understanding about consuming Safe, Healthy, Whole, and Halal (ASUH) animal-based food.

Policy Recommendations Based on the Livestock Sector for Accelerating Stunting Reduction in Kutai Timur Regency

Increasing Local Livestock Production and Productivity for Nutrition

To enhance local livestock production and productivity, it is crucial to strengthen programs such as Upsus Siwab by allocating sufficient budgets for superior seeds, high-quality feed, and comprehensive animal health services. Priority should be given to improving the productivity of local cattle, laying hens, and Kalang buffalo, which have significant potential in Kutai Timur. Additionally, the adoption of modern livestock technology—learned from benchmarking studies—should be encouraged to boost production efficiency and livestock quality. This includes providing training for farmers, particularly the younger generation, in barn management, disease control, and efficient feed management (Parmawati et al., 2018).

Another key strategy is optimizing the use of local resources for feed, particularly through the symbiotic mutualism model between oil palm plantations and livestock farming (Fitriawaty et al., 2022). Research and development should focus on creating alternative feed from palm waste and other local materials to reduce reliance on expensive commercial feed. Establishing training centers or demonstration plots for integrated livestock farming can further promote sustainable practices, such as using agricultural waste for feed while producing organic fertilizer.

Strengthening Local Supply Chains, Including Subsidies For Vulnerable Families

To ensure that animal products reach those most in need, local supply chains and distribution systems must be strengthened. This involves developing more efficient logistics to prioritize internal market needs in Kutai Timur rather than external markets. Partnerships between local farmers, traditional markets, modern retailers, and government programs can facilitate this. Additionally, food distribution centers at the sub-district or village level should be built or revitalized to improve access to fresh and affordable animal products, especially in rural and remote areas (Ishak et al., 2022).

Subsidy programs and social safety nets should also be implemented to make animal products more accessible to vulnerable groups. Local livestock products, such as eggs and chicken meat, should be integrated into food assistance programs and Supplementary Feeding Programs for families at risk of stunting, pregnant women, and nursing mothers—aligning with the national "Free Nutritious Meals" initiative. Furthermore, subsidized pricing or special schemes for animal products should be introduced for low-income families, particularly in high-stunting areas, to enhance purchasing power and protein consumption.

Community Empowerment And Nutrition Education On Animal Protein

A large-scale nutrition education campaign is essential to raise awareness about the importance of animal protein during the First 1000 Days of Life and balanced nutrition for pregnant women, nursing mothers, and toddlers. Educational materials should be practical, culturally relevant, and easy to understand, emphasizing locally available animal products. The role of Posyandu (Integrated Health Posts) and health cadres should be optimized to provide nutrition counseling and child growth monitoring, with a strong focus on increasing animal protein intake (Suhartati et al., 2024).

To further empower communities, household-scale livestock farming—such as the successful laying hen model in Singa Gembara Village—should be replicated. Providing initial seed assistance, technical training, and mentorship can help at-risk families establish small-scale livestock businesses, improving both nutrition and household income. Integrating these initiatives with the Sustainable Yard Food Program will strengthen household-level food security.

Improving Multi-Party Collaboration

Effective stunting reduction requires strong partnerships with the private sector, particularly mining and plantation companies operating in Kutai Timur. These companies can contribute by creating local employment opportunities, improving family economic capacity, and investing in Corporate Social Responsibility (CSR) programs that support livestock development, feed production, and animal product distribution.

Additionally, synergy among regional agencies—such as the Livestock Office, Health Office, and Food Security Office—is crucial for coordinated planning and implementation of livestock-based stunting interventions. The Livestock Study Program at STIPER Kutai Timur should be leveraged for research, farmer training, and community outreach, ensuring a steady supply of skilled human resources in the livestock sector. By implementing these strategies in a coordinated and sustainable manner, Kutai Timur can accelerate stunting reduction, improve nutrition security, and foster economic resilience through local livestock development.

CONCLUSION

Kutai Timur Regency has demonstrated strong commitment and significant progress in reducing stunting prevalence, evidenced by declining rates and fewer atrisk families, yet challenges persist in ensuring equitable access to affordable animal products despite the local livestock sector's potential. Analysis reveals that stunting stems not only from direct nutritional deficiencies but also from socio-economic factors like unemployment and low maternal education, which restrict access to nutritious food and proper childcare, necessitating a holistic, multi-sectoral approach targeting root causes. The livestock sector plays a pivotal dual role in this effort, serving as both a critical source of animal protein and an economic driver through job creation and increased farmer income, with the alignment of local livestock policies and national nutrition programs offering synergistic opportunities for sustainable impact.

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