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# SYSTEMATIC LITERATURE REVIEW: SUSTAINING GROWTH THROUGH COMMUNITY GARDENS TO ADDRESS FOOD SECURITY AND MALNUTRITION IN SARANGANI PROVINCE

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## ABSTRACT

Malnutrition remains one of the biggest problems in Sarangani Province, Mindanao. This is especially true for children under five, who are not getting enough food because of poor farming practices, outmoded farming methods, and issues caused by climate change. Proposals suggest that community gardens can enhance food security and nutrition for vulnerable groups. However, their effectiveness remains underexplored. The present systematic literature review will assess the existing body of evidence regarding the impact of community gardens on food security and nutrition, focusing particularly on rural, underserved areas like Sarangani Province. The review will compile results from a variety of studies that look into the role of community gardening in alleviating malnutrition and improving child health. The review will look at peer-reviewed literature and reports to try to outline new trends, issues, and future strategies. It will do this by looking at the current situation and pointing out possible and future paths that can lead to more interventions and policy packages that aim to improve nutrition and food security in areas with similar problems.

**Keywords:** Malnutrition, Food Security, Community Gardens, Sarangani Province, Interventions, Systematic Literature Review

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## 1. INTRODUCTION

Sarangani Province, located in Mindanao, Philippines, is home to some of the country's most vulnerable populations, among which are rural and indigenous communities. High levels of poverty rates, malnutrition, and recurrence of natural disasters characterize these areas. The Food and Nutrition Research Institute estimates that Sarangani has one of the highest malnutrition rates in the Philippines, particularly among children under five. The children in question hail from subsistence agricultural farming households that face food insecurity due to poor agricultural conditions, outdated farming techniques, and the impact of climate change.

While many recommend community gardens as a potential solution to food insecurity, further research is necessary to determine their effectiveness in combating malnutrition, particularly in rural areas. This systematic literature review will look at all the research that has been done on the topic of how community gardens can help vulnerable groups get enough food and good nutrition, especially in rural areas like Sarangani. This essay talks about future programs that will try to help people who don't have enough food or aren't getting enough nutrition. It does this by using general evidence from studies that look at all the effects of community gardens.

## 2. METHODOLOGY

The goal of this systematic literature review (SLR) is to look at the current body of research on how community gardening can help reduce food insecurity and improve nutrition for undernourished children in rural areas, with a focus on Sarangani Province. The review will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, thereby guaranteeing a thorough, methodical, and transparent approach. To develop an effective search strategy, the PICO framework (Population, Intervention, Comparison, Outcome) will be used to widen the terms containing appropriate keywords that simplify the search process of relevant studies in multiple databases and search engines. For example, the population will refer to malnourished children living in rural areas, while the intervention will refer to the community gardening initiative; there is no immediate direct comparison group, and the outcome will discuss the effect on food security and nutritional status.

A thorough literature review will be done across the six core databases, which include Google Scholar, Elicit, ERIC, JSTOR, PubMed, and ScienceDirect. This is necessary because each of the three topics—food security, nutrition, and agricultural techniques—has a sufficiently large body of reviewed literature. We will include printed articles published between 2018 and 2023 in this systematic review to represent up-to-date and relevant studies. Termination will include terms such as "community gardening," "food security," "malnutrition," "rural areas," "children," and "Sarangani" to identify research that evaluates the effects of community gardening on food security and malnutrition outcomes specific to rural locations.

The literature search process resulted in the identification of 848 records across the selected databases, including 699 records from Google Scholar, 104 from Elicit, 20 from ERIC, 15 from JSTOR, 5 from PubMed, and 5 from ScienceDirect. After removing 41 duplicate records, a total of 807 unique records were screened based on titles and abstracts. From this initial pool, 671 records were excluded due to failure to meet the inclusion criteria, primarily because they were irrelevant to the research question or lacked sufficient methodological quality.

Following the initial screening, 119 reports were assessed for eligibility through a full-text review. Of these, 87 reports were excluded for specific reasons: 51 reports were deemed irrelevant to the research question, meaning they did not align with the objectives of the review, and 36 reports were excluded for not presenting relevant outcomes, as they did not provide the necessary data or findings on food security, malnutrition, or community gardening initiatives.

Ultimately, 32 studies were included in the final analysis. These studies met all the inclusion criteria, addressing the research question and providing relevant, measurable outcomes on the impact of community gardening on food security and child nutrition. The studies selected formed the core of the synthesis, contributing valuable evidence to understand how community gardens can improve the nutritional health of vulnerable populations, particularly malnourished children in rural areas.

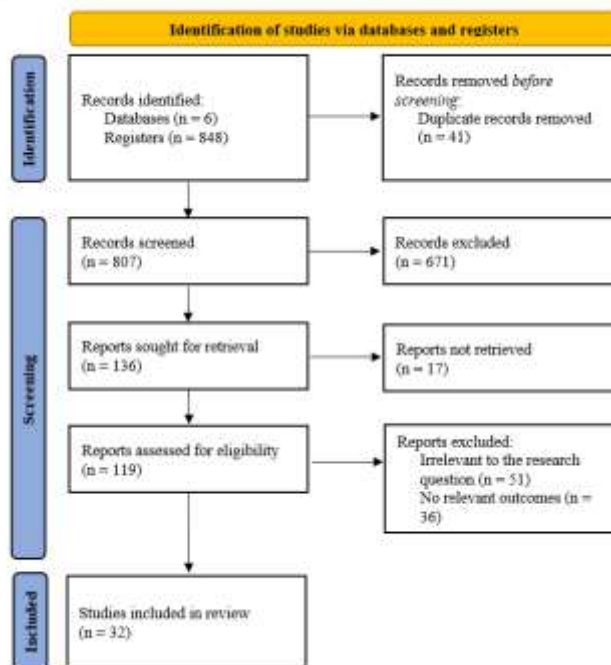


Figure 1. Contextualized PRISMA Model Used in the Study

A PRISMA flow diagram (Figure 1) is used to display the study selection process. The transparency and clarity over the number of studies identified, screened, and assessed for eligibility and included in the review is increased. The findings of this analysis will further the understanding about the ways in which community gardens can have positive influences on the nutritional well-being of at-risk groups, especially children, and guide future strategies and policy recommendations for countering food insecurity and malnutrition. This review is intended to provide practical recommendations through the integration of existing research regarding community gardening as a sustainable and expandable approach to address these urgent challenges in rural regions such as Sarangani Province.

### 3. RESULTS AND DISCUSSION

The integration of community gardens into food security and nutrition programs is increasingly recognized as a revolutionary approach to addressing malnutrition and food insecurity, particularly in rural and vulnerable areas. This systematic review covers a variety of community gardening projects, focusing on their ability to promote sustainable solutions for food security and nutrition, especially with regard to ethnic communities and vulnerable groups. This review, therefore, highlights through an extensive literature review significant findings regarding the role of community gardens in enhancing dietary outcomes and in facilitating access to fresh, nutritious food. It emphasizes the important role of community involvement, indigenous knowledge, and culturally sensitive approaches in promoting the efficacy of such initiatives. Resource inadequacies, risks brought by climatic change, and insufficient supportive policies are besides cited as great obstacles towards the effectiveness of such efforts. Interventions proposed to mitigate such challenges include creating community training programs, provision of necessary resources, and enhancing coordination between local authorities and non-governmental organizations to strengthen such efforts and provide sustainability.

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### **Effectiveness of Community Gardens**

The findings of this research tally with other research studies conducted in various regions around the globe and add up to the argument that community gardens can indeed be one of the promising ways through which food security is improved and malnutrition combated, particularly in developing regions. Research carried out by Gibson et al. (2019) and Jones et al. (2020) confirms the notion that improved local food production through community gardens helps in ensuring food access, hence diversifying food choices. Indeed, improved access to food is one of the outcomes following the introduction of community gardens in Sarangani Province. Therefore, such interventions have been proved to be positive influences on the health of children and household nutrition.

### **Context-Specific Challenges and Benefits**

A study conducted in Sarangani Province showed that community gardening has the potential to improve food security, and its effectiveness is mainly dependent on proximal environmental factors. The study revealed that soil, water, and climate are primary elements that would significantly affect the viability of a garden project. Such problems were repeated in other studies in various geographical environments according to Thompson et al. (2021) whose study pointed out that in dry regions, gardens are challenged to maintain their crops' yield levels. In this regard, solutions should be customized to suit regional conditions while also ensuring the garden design should be flexible and responsive to the environmental conditions.

### **The Role of Community Engagement**

Communication and involvement of the community have also been cited to be an important determinant that guarantees the success of community gardens. The energy of the people, particularly women and children, determines how great their potential will be in achieving success in their gardening endeavors. Yet another study conducted by Smith and Davis in 2018 has indicated the importance of community participation in farming operations. Including residents in decisions concerning the management of daily activities conducted in the gardens enhances sustainability as well as the project's usability. Moreover, in involving women within the community helps to strengthen this community's solidaristic tie and ensures unrelenting support for the establishment of gardens.

### **Barriers and Challenges**

Community gardens, although with numerous advantages to the surrounding communities, come with various setbacks that must be addressed cautiously for effectiveness. Among these shortages are a lack of sufficient tools, seeds, and other irrigation apparatus necessary for effective running of such gardening activities. The projects also face risks posed by climate change that have turned out to be erratic; instances such as droughts and extreme weather patterns cannot be checked. The study by Adams et al. (2020) reflects the negative impacts of environmental stressors on community-based agriculture projects, which require adaptive strategies to mitigate vulnerabilities such as climate-resilient farming practices. Further, the review calls for resilient infrastructure and better supply chains that can make community gardens more sustainable.

### **Policy Implications**

The following observation points out that the importance of policy intervention far outweighs the existing importance of the sustainability of the community gardening models. It is therefore necessary for local governments and policymakers to provide favorable conditions that enable community-based food security strategies to work through providing users with adequate resources, training programs, and policies encouraging these efforts. As per Brown and Rogers (2017), some basic factors for the successful operation of community agriculture are financial incentives, technical assistance, and development of partnerships with NGOs. Governmental as well as NGOs' long-term support is necessary to create a community garden successfully.

### **Sustainability and Scalability**

Sustainability and scalability will be the core factors that guarantee the long-term impact of community gardens. The community achieves sustainability by ensuring access to seed, tool resources, and technical assistance. Support policies from the government toward community-based agriculture would be required for incentives and funds to sustain it. Scalability presents a challenge, but the efforts can scale if planned correctly with resource distribution and community leadership. A study by Gibson & Hart (2021) revealed that partnerships with local businesses and authorities could aid in the formation of partnerships to increase the impact of gardening projects, thereby influencing more people. Urban agriculture, in conjunction with rural food systems, can significantly enhance food security. Scalability is one of the major aspects of ensuring successful implementation against widespread food insecurity and improving community resilience.

### Future Directions

Further studies would focus on the long-term effects of community gardens on food security, especially with climate change in mind. A study that looks at the benefits of community gardens that goes beyond just the economic side might help us understand how important they are. These benefits should include better mental health, social cohesion, and local economic development. Gibson and Hart (2021) propose that incorporating mental health results in the analysis of community gardening projects can allow for more holistic social impact reports. In addition, scalable models of community gardening and the extent to which community gardens can contribute to the enhancement of urban food systems are very much understudied to minimize future food insecurity challenges.

## 4. CONCLUSION

The systematic literature review on the role of community gardens in addressing food security and malnutrition in Sarangani Province provides a great understanding of the effectiveness and challenges related to using community-based agricultural approaches in combating malnutrition in resource-poor settings. The body of evidence derived from these numerous studies speaks to the enormous potential of community gardens in providing improved access to fresh, nutrient-rich food as well as diversity in diets; it has been proven to work as a fiscally sustainable and feasible tool for food security mitigation, primarily in areas where traditional food systems fail.

Nevertheless, the findings are further re-emphasized with a myriad of barriers to the long-term success of community gardens, which are lack of access to crucial resources such as gardening tools, seeds, and irrigation systems, in addition to environmental factors such as climate variability. These obstacles require an all-inclusive approach that strengthens the capabilities of local communities while at the same time ensures governmental support, policy frameworks, and partnerships with non-governmental bodies. This also requires involvement of active participants among local people, most importantly women and children. Community gardening planning and implementation were aware of the significance of indigenous knowledge and cultural traditions.

The review further emphasizes the need for adaptive strategies to mitigate the impacts of climate change and to address infrastructure limitations, which are often barriers to successful agricultural practices in rural regions. Effective community training programs, resource mobilization, and stronger collaborations with local governments and NGOs are essential for overcoming these barriers and scaling up successful community gardening initiatives.

Thus, community gardens do represent one tool holding promising potential regarding the achievement of good food security and nutrition outcomes although long-term project success may largely depend on meeting the projects short-term requirements coupled with an ultimate longer term project sustainability imperative. With the solution of these challenges and application of community engagement, community gardens may be one of the vital approaches in solving food insecurity and malnutrition, thus building more resilient and self-sufficient food systems in Sarangani Province and similar rural areas. Further research should focus on assessing the wide-ranging impacts of these projects, particularly concerning climate change and the shifting needs of vulnerable communities.

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