

## Risk Management Analysis in Community-Based Health and Food Projects

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### ABSTRACT

Risk management is one of the critical elements that determine the successful implementation of community-based health and food projects. The complexity and high uncertainty in these projects, such as limited funding, operational challenges, social risks, and changes in government policies, require a structured and thorough risk management approach. This article aims to analyze the application of risk management in community-based health and food projects using the literature study method. The analysis is conducted by reviewing previous studies, scientific articles, and reports of international organizations related to this topic. The article identifies several key types of risks that often arise in projects, such as financial, operational, social, environmental and political risks. In addition, it discusses commonly used mitigation strategies, including risk analysis-based planning, active community engagement, diversification of funding sources, capacity training, and continuous monitoring and evaluation. The study also identifies a number of challenges in implementing risk management, such as limited community understanding of risks, lack of adequate data, and low program sustainability after project completion. The analysis shows that the success of the project is highly dependent on early risk identification, active community involvement, and well-designed program sustainability. This article is expected to serve as a reference for practitioners, academics and policy makers in designing and implementing more effective and sustainable community-based health and food projects.

**Keywords:** risk management, health project, food, community

## 1 Introduction

Community-based health and food projects play a vital role in improving people's quality of life, especially in areas facing social and economic challenges. These programs not only focus on providing basic health services or access to nutritious food, but also play a role in building community self-reliance, strengthening social networks, and supporting efforts to achieve the Sustainable Development Goals (SDGs). Some concrete examples include posyandu programs, nutrition counseling, urban farming, and community-based food management designed to improve local food security. However, the implementation of these projects is often faced with various risks that can hinder or even derail the achievement of the goals. Financial risks such as lack of funds, operational risks such as limited expertise, social risks such as resistance or lack of community participation, and external risks such as climate change and natural disasters are real challenges that must be faced. In , changes in government policies or local political dynamics can also affect project sustainability. Therefore, efforts to recognize, analyze, and control risks are very important.

Risk management is a systematic approach used to identify, analyze, evaluate, and control potential risks that may arise in a project. In the context of community-based health and food projects, risk management plays a strategic role in ensuring that program objectives can be achieved effectively and efficiently. Through this approach, project managers can minimize potential negative impacts and maximize the chances of success. In practice, implementing risk management at the community level often encounters challenges. A lack of understanding of risks, limited capacity of local human resources,

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and restricted access to accurate data are common issues. On the other hand, active community involvement in every stage of risk management from identification to monitoring has been proven to improve program success. Therefore, it is important to understand best practices that have been applied in similar projects as references for developing better programs.

This research uses a literature study approach to analyze risk management concepts, challenges, and best practices in community-based health and food projects. The goal is to deepen the understanding of common risks, mitigation strategies, and factors influencing risk management effectiveness, while identifying gaps in knowledge and practice. The findings aim to benefit practitioners, academics, and policymakers. Practitioners can improve their programs, academics can expand on the research, and policymakers can develop supportive policies for project sustainability. Community-based health and food projects aim to improve well-being and drive social change by empowering communities to manage resources. Risk management is key to identifying threats and maximizing opportunities. Involvement at all stages boosts ownership and resilience, but challenges like policy changes, economic shifts, and limited capacity often arise. A comprehensive approach, including risk mapping, mitigation, and monitoring, is essential for sustainability. This article reviews literature to highlight the importance of these strategies in ensuring project success.

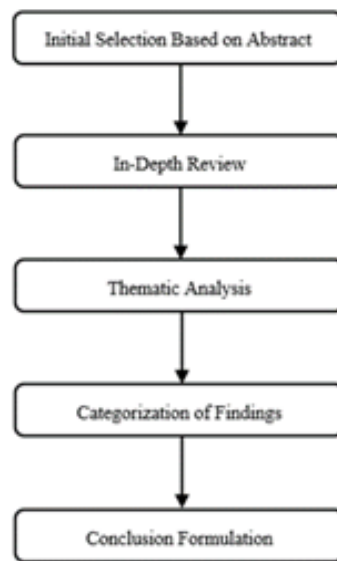
## 2 Literature Review

Tabel 1. Literature Study

No.	Author	Year	Title	Topic Discussed	Methodology Used
1	V. Amelia dan D. Prasetyo	2022	Community-Based Tourism Village Management as Strengthening Food Security	Strengthening food security through the management of village tourism	Descriptive qualitative study with a case study approach
2	C. F. Sari	2022	Stunting Prevention Program through the Community-Based Total Sanitation Program in the North Sumatra Puskesmas Working Area	Stunting prevention through a sanitation approach	Field study and participatory program evaluation approach
3	A. S. Mulyaningsih, H. F. Listyaningrum, dan N. I. Juimfita	2023	Strengthening Food Security Based on Local Resources as an Anticipation to Tackle El Nino	Local food resilience in facing the impact of El Nino	Literature study and policy analysis
4	H. Khotimah, R. Miki, Y. Pertasari, dan S. U. Subagio	2023	Strengthening Food Diversity Based on Local Wisdom as an Effort to Prevent Stunting on Toddlers	Local food diversification for stunting prevention	Qualitative research and field observation

**Tabel 1 (continued)**

No.	Author	Year	Title	Topic Discussed	Methodology Used
5	B. Widjanarko, B. T. Husodo, dan P. N. Prabamurti	2024	Community Empowerment in Processing Nutritious Foods Sourced from Local Foodstuffs in Kalongan Village, Semarang Regency	Community empowerment through processing nutritious food based on local food	Community action research (Participatory Action Research)



Gambar 1. Risk Management Analysis in Community-Based Health and Food Projects

### 3 Research Methods

This research uses a literature review to analyze risk management in community-based health and food projects, providing insights into theories, empirical findings, and best practices. Secondary sources, including journals, academic books, WHO and FAO reports, and conference proceedings (2015-2024), were reviewed to identify patterns in risk management. The search was conducted using databases like Google Scholar, Scopus, and PubMed with keywords such as "risk management," "community-based health projects," and "food security." Thematic analysis identified recurring themes in risk types, mitigation strategies, and success factors. This approach offers a global perspective on risk management practices and provides practical insights for project managers, contributing to the existing literature and serving as a foundation for future research.

## 4 Results and Discussion

### 1. Key Risk Identification

Based on the literature review, financial risk is a major challenge in community-based health and food projects, often due to poor financial planning or dependence on a single funding source. Cost fluctuations, like inflation or market price changes, can destabilize finances and lead to project failure if not managed early. Operational risks include internal issues such as a lack of skilled personnel, particularly in remote areas, and logistical problems like delays in delivering supplies, which can

undermine project effectiveness and community trust. Social risks, such as community resistance or internal conflicts in multiethnic settings, can disrupt implementation, especially without strong communication strategies. Environmental and political risks, including natural disasters and climate change, can damage infrastructure and affect food availability, while shifts in policy or leadership can threaten project sustainability.

## **2. Risk Mitigation Strategy**

Literature reviews emphasize the importance of early risk analysis during the project design phase, where potential issues are identified, impacts assessed, and responses planned. This proactive approach helps develop preventive strategies and allocate contingency budgets, leading to more realistic goals. Active community participation in planning and implementation is crucial, fostering ownership and uncovering local risks that may be overlooked. Diversifying funding sources, such as engaging the private sector or seeking local government support, enhances financial sustainability. Strengthening the capacity of implementation teams through training in technical, managerial, and communication skills is essential for effective risk management. Finally, continuous monitoring and evaluation allow for early issue detection, assessing risk strategy success, and ensuring the project adapts to challenges.

## **3. Implementation Challenges**

One major challenge in risk management implementation is the community's limited understanding of its importance. Many view projects as short-term aid, leading to low participation and weak strategic support. Risk management education is essential to build early awareness. Another key issue is the lack of accurate data, especially in rural areas, which forces planning to rely on assumptions rather than real conditions—raising the risk of miscalculation. High dependence on external actors like donors or NGOs also undermines community autonomy and threatens project sustainability once support ends. Additionally, many projects lack long-term planning, causing their impacts to fade quickly after completion. Strengthening local capacity and integrating sustainability from the design stage are vital to ensure lasting benefits.

## **4. The Role of Technology in Supporting Risk Management**

The advancement of information technology has significantly enhanced risk management in community-based health and food projects. Tools such as GIS, health monitoring apps, and mobile devices help map vulnerable areas and track project progress in real-time, enabling quicker and more accurate, data-driven decisions. Technology also improves communication among stakeholders—project teams, communities, governments, and donors—through digital platforms like social media, messaging apps, and online portals. These tools facilitate widespread dissemination of updates, early warnings, and educational content, supporting more effective and responsive project implementation.

## **5. Policy Implications**

Literature analysis emphasizes the importance of supportive government policies for effective risk management in community-based health and food projects. Clear regulations, funding support, and inter-agency coordination create a favorable environment, while inconsistent policies can introduce additional risks. Cross-sector collaboration among civil society, the private sector, and academia is essential for optimizing resources, expanding reach, and enhancing sustainability. Such partnerships strengthen social networks, improve information flow, and increase community resilience. Another critical factor is strong local institutional capacity. Successful projects often involve empowered local organizations capable of managing risks and making decisions independently. Therefore, interventions should focus on building local organizational strength, not just short-term results. Sustainability must be integrated from planning to evaluation, including continuous funding, human resources, infrastructure, and long-term social impact. Governments and donors should adopt funding models that support lasting outcomes, ensuring benefits extend beyond the project's duration.

## 5 Conclusion

The conclusion of this study is that risk management plays a crucial role in the success of community-based health and food projects. Proper risk identification at the beginning, active community involvement in all stages, and the use of risk management tools are essential for planning, implementation, and program sustainability. Projects that effectively manage risks tend to succeed better due to adaptations to local conditions and changes over time. To improve risk management effectiveness, local capacity, both human resources and infrastructure, needs strengthening. Better monitoring, evaluation systems, and data-driven approaches are also necessary for timely and accurate risk responses. Additionally, sustainable financing is crucial to ensure the program continues after the project ends. Strengthening these foundations will help community-based health and food projects have a more significant and lasting positive impact. Risk management should not only be a mitigation tool but also a proactive strategy that enhances a project's resilience to uncertainty.

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