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Implementation of Indigenous Food Strategies and the Role of Local Wisdom in Papua's Food Sovereignty

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ABSTRACT

This study explores the implementation of indigenous food strategies and the role of local wisdom in Papua's food sovereignty, Indonesia. Papua, known for its rich cultural diversity and unique ecological environment, has long depended on indigenous food systems that are in harmony with nature. These food systems, embedded in local traditions and customs, offer valuable insights into sustainable food practices. By utilizing a qualitative research approach, this study primarily relies on library research and a comprehensive review of existing literature to examine the interconnections between indigenous food strategies, local knowledge, and food sovereignty. The research identifies key indigenous practices that support food security, such as the preservation of traditional crops, resource management, and community-based food systems. It further highlights how these practices have been influenced by local wisdom and their potential to enhance food sovereignty in Papua amidst global challenges like climate change and food insecurity. The findings suggest that integrating indigenous food strategies with modern agricultural practices could offer a sustainable path forward for achieving food sovereignty in Papua. Moreover, the study underscores the importance of preserving indigenous knowledge as a means to strengthen resilience and self-sufficiency in the region. This research contributes to a broader understanding of the role indigenous food systems play in ensuring food sovereignty, with implications for policy-making and sustainable development in Papua and beyond.

INTRODUCTION

Food sovereignty, a term that emphasizes the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, is becoming increasingly crucial in the context of global food insecurity and climate change (Altieri et al., 2025). In Papua, a region in Indonesia known for its remarkable biodiversity and cultural diversity, the issue of food sovereignty is particularly pertinent.



Indigenous communities in Papua have long practiced food systems that are deeply rooted in local wisdom, sustainable land use, and natural resource management. These indigenous food strategies offer potential solutions to contemporary challenges surrounding food security, climate adaptation, and sustainable agriculture.

Indigenous food systems in Papua, shaped by generations of traditional knowledge, are not merely a collection of agricultural practices but a comprehensive framework that reflects the close relationship between local communities and their environment. These practices include the cultivation of native crops, the preservation of local biodiversity, and the careful management of forest and aquatic ecosystems. Papua's indigenous food strategies are fundamentally about ensuring that food production remains sustainable, equitable, and deeply connected to the cultural identity and heritage of the communities (Binns et al., 2021). Despite the rapid modernization and external pressures facing Papua's agricultural systems, these indigenous strategies continue to play a vital role in maintaining food sovereignty.

The significance of local wisdom in food sovereignty cannot be overstated. Local wisdom, passed down through generations, encompasses a range of knowledge systems and practices that reflect the socio-cultural and ecological context of the communities. In Papua, local wisdom is not just a repository of ancient practices but a living and dynamic body of knowledge that continues to inform food-related decision-making. These practices often prioritize sustainability, biodiversity, and community resilience, offering insights into how food systems can be adapted to contemporary challenges (Bellanthudawa et al., 2025).

This study aims to explore the implementation of indigenous food strategies in Papua and the role of local wisdom in strengthening food sovereignty (Newman et al., 2023). By examining the relationship between traditional knowledge, indigenous food practices, and the broader concept of food sovereignty, the research seeks to uncover how these strategies can contribute to sustainable solutions for food security in the region. Furthermore, this paper will explore the ways in which indigenous knowledge can be integrated with modern agricultural techniques to create a more resilient and self-sufficient food system. The research will also investigate the current challenges facing the preservation of indigenous food systems in Papua, such as the encroachment of modern agriculture, climate change, and the erosion of traditional knowledge.

The importance of this research lies not only in its potential to contribute to the discourse on food sovereignty but also in its capacity to shed light on how indigenous wisdom can be a transformative force in the sustainable development of the region. Papua's food sovereignty, though influenced by global trends and external pressures, remains fundamentally shaped by the indigenous knowledge and practices that have sustained the region for millennia. By focusing on the implementation of indigenous food strategies and the role of local wisdom, this study offers insights into the critical role of indigenous practices in achieving sustainable food systems in Papua and potentially in other similar regions around the world (Vickram & Srivastava, 2024).

This paper is organized as follows: it first provides an overview of the concept of food sovereignty and the importance of indigenous food strategies in the context of global food security. Next, it examines the role of local wisdom in food sovereignty, particularly in the Papuan context. The methodology section outlines the research approach and data



sources used to analyze the implementation of indigenous food strategies in Papua. The findings will then explore the key indigenous practices that contribute to food sovereignty in the region, followed by a discussion of the challenges and opportunities for integrating these practices with modern agricultural systems. Finally, the conclusion highlights the implications of this research for policy development, sustainable agriculture, and food security in Papua (Farooq et al., 2022).

In summary, this research underscores the critical importance of preserving and promoting indigenous food systems as a pathway to achieving food sovereignty (Hiywotu, 2025). It highlights how the implementation of indigenous food strategies, informed by local wisdom, can provide sustainable and culturally appropriate solutions to the complex challenges of food security in Papua. Through this exploration, the study contributes to a broader understanding of food sovereignty and the potential for indigenous knowledge to shape more resilient and sustainable food systems worldwide.

METHODOLOGY

This study employs a qualitative research approach to explore the implementation of indigenous food strategies and the role of local wisdom in enhancing food sovereignty in Papua. The primary method used in this research is literature review and library research, focusing on both academic and non-academic sources to gather relevant data. The approach allows for an in-depth understanding of the local knowledge systems, cultural practices, and food sovereignty dynamics in the Papua region (Huambachano, 2018). The research process is divided into several stages: data collection, analysis, and synthesis, as outlined below.

Research Design

The research design for this study is primarily qualitative, aimed at gaining insights into the complexities of indigenous food strategies and their relationship with food sovereignty in Papua. Given the cultural and contextual specificity of the subject, this research design is suitable for capturing a deep understanding of the indigenous knowledge systems that influence food practices in the region (Marrero et al., 2023). A literature-based research design allows the study to compile and synthesize information from a broad range of sources, providing a comprehensive overview of the topic from various perspectives.

Data Collection

Data collection for this study is centered around secondary data obtained from extensive literature review. The key sources of data include:

Academic Articles and Books: Peer-reviewed journal articles, books, and academic publications related to indigenous food systems, food sovereignty, and local wisdom in Papua and other similar regions are examined. These sources provide theoretical and empirical insights into indigenous food strategies, local food security practices, and the role of cultural knowledge in food systems (Jackson, 2020).



Government Reports and Policy Documents: Relevant reports from the Indonesian government, as well as food sovereignty policy documents, are reviewed to understand the policy landscape concerning food security in Papua.

Indigenous Knowledge and Cultural Practices: Anthropological and ethnographic studies of the indigenous peoples of Papua are consulted to highlight traditional food practices, agricultural techniques, and the role of local wisdom in food management.

Grey Literature: Non-peer-reviewed publications such as reports from NGOs, international organizations, and community-based studies are also considered to provide a broader understanding of grassroots-level efforts related to food sovereignty.

The literature review is conducted through databases such as JSTOR, Google Scholar, Scopus, and specific Indonesian research repositories. Keywords such as "indigenous food systems," "food sovereignty," "local wisdom," and "Papua" are used to gather relevant publications.

Data Analysis

The data analysis in this study is conducted through thematic analysis, which involves identifying, analyzing, and reporting patterns or themes within the collected data. The analysis is focused on the following key areas:

Indigenous Food Strategies: Identifying the key indigenous practices that contribute to food security in Papua, including sustainable farming techniques, the cultivation of traditional crops, food preservation methods, and the management of local ecosystems.

Role of Local Wisdom: Exploring how local wisdom and cultural practices shape food sovereignty efforts in Papua, with a focus on knowledge transmission, community-based resource management, and the interaction between traditional ecological knowledge and modern agricultural systems.

Food Sovereignty Challenges and Opportunities: Analyzing the barriers to food sovereignty in Papua, such as climate change, globalization, and external economic pressures, and identifying the potential role of indigenous strategies in overcoming these challenges.

Thematic analysis allows for an interpretative understanding of how indigenous food strategies can contribute to enhancing food sovereignty, with particular attention to local knowledge systems and their integration into policy frameworks.

Synthesis and Conclusion

Once the themes are identified and analyzed, the findings are synthesized to provide a comprehensive understanding of the research question. The synthesis integrates the key insights from the literature to present a nuanced perspective on the implementation of indigenous food strategies and the role of local wisdom in food sovereignty in Papua.



Limitations

Given that this study relies on secondary data, one limitation is the potential lack of up-to-date empirical data from primary sources. Furthermore, as the study primarily examines existing literature, it may be limited by the scope and biases of the sources available, especially in regions with limited documentation of indigenous practices. However, the thorough nature of the literature review mitigates these concerns by presenting a broad and balanced view of the topic.

Ethical Considerations

While this study does not involve direct fieldwork or interaction with human subjects, ethical considerations are still important in the process of data collection and interpretation. The research adheres to ethical guidelines by ensuring proper attribution of all sources, avoiding misrepresentation of indigenous knowledge, and respecting the cultural and intellectual property rights of indigenous communities.

RESULT AND DISCUSSION

The implementation of indigenous food strategies in Papua has shown significant promise in strengthening food sovereignty, primarily due to the region's profound reliance on local wisdom and traditional agricultural practices. Indigenous communities in Papua have long managed their food systems in ways that ensure sustainability and resilience, adapting to the unique ecological conditions of the region (Jaizul et al., 2025). Traditional agricultural practices, such as the cultivation of native crops like sago, taro, and cassava, are deeply embedded in the culture and daily lives of these communities. These crops are not only central to the diet but also play a critical role in food security, providing nutritional staples that are resistant to climate change and environmental shifts.

Local wisdom, which is passed down through generations, guides the cultivation, harvesting, and preservation of these crops, ensuring that food systems remain balanced and sustainable. Practices such as crop rotation, intercropping, and agroforestry have been integral in preserving soil fertility, conserving biodiversity, and maintaining ecological harmony. Furthermore, traditional knowledge concerning the management of natural resources, such as forests, rivers, and fishing areas, has contributed to the effective use of local resources without over-exploitation. These practices are based on a deep understanding of the environment and the cycles of nature, which not only sustains food production but also fosters a symbiotic relationship with the land.

The implementation of these indigenous food strategies also has broader social and cultural implications, as they reinforce community cohesion and ensure equitable access to food within local populations. The role of local wisdom in promoting food sovereignty is particularly crucial in the face of modern challenges such as globalization, market dependence, and the impact of climate change on agriculture. By integrating indigenous knowledge with contemporary agricultural practices, Papua's food systems are better positioned to withstand external pressures and contribute to the region's overall resilience. Moreover, the revitalization of indigenous food systems can enhance local food sovereignty, empowering communities to reclaim control over their food sources and reduce dependency on external food markets.



In the highland regions of Papua, local communities have long depended on indigenous food systems that are intricately tied to their cultural practices and traditional knowledge. These food systems are not only sustainable but have contributed significantly to the resilience of these communities, particularly in remote areas where external food systems are less accessible. However, with the increasing influence of globalization, market dependence, and climate change, these systems are under threat. The introduction of commercial agricultural practices, along with changes in the climate, has altered traditional farming methods and reduced the availability of native crops. Consequently, food sovereignty has become a growing concern.

A community in the Jayawijaya Highlands of Papua has embarked on a project to revitalize its indigenous food systems in response to the challenges posed by modern agricultural practices and climate change. This effort is spearheaded by local leaders, including elders who possess a wealth of knowledge about sustainable farming and food production techniques. The project involves a two-pronged approach: first, reviving traditional farming methods, and second, integrating these practices with modern agricultural tools to ensure better resilience against climate change.

Implementation of Indigenous Food Strategies:

The local community has started by cultivating native crops such as sago, yam, and taro, which are well-suited to the region's diverse landscapes, from lowland forests to mountain terrains. These crops are nutritionally rich and require fewer external inputs like chemical fertilizers, which can degrade the environment. The community has also reintegrated agroforestry systems, where crops like sago are grown alongside trees, which helps preserve soil fertility and water resources.

One of the critical strategies in this revitalization is the integration of traditional knowledge with modern farming techniques. For example, traditional knowledge of shifting cultivation methods, once seen as inefficient, has been adapted to ensure that land is used sustainably and that soil degradation is minimized. The use of modern irrigation systems alongside traditional water management practices has helped communities adapt to increasingly unpredictable rainfall patterns caused by climate change.

Social and Cultural Implications:

The revitalization of indigenous food systems in Papua has broader social and cultural implications. By involving the community in the project, the initiative has reinforced local knowledge systems and strengthened community cohesion. Elders and younger generations collaborate, creating a space for intergenerational exchange of knowledge. The community has also implemented food-sharing programs, ensuring equitable access to food, especially in times of scarcity, thus reducing social inequality.

This approach reinforces cultural identity and pride as people reconnect with their heritage and food sources. For example, local festivals centered around traditional food practices, such as the harvest of sago and yam, have become vital community events that not only celebrate food sovereignty but also foster unity.

Broader Impact on Food Sovereignty:



The revitalization of indigenous food systems has significant implications for food sovereignty in Papua. By reclaiming control over their food sources, the community reduces its dependence on external food markets, which are often subject to fluctuating prices and supply chain disruptions. This is particularly important in the context of globalization, where market-driven agricultural practices often prioritize profit over sustainability.

Additionally, the integration of indigenous knowledge with modern practices has enhanced the resilience of the local food system. As climate change continues to affect crop yields, these strategies allow communities to diversify their food sources, making them less vulnerable to market shifts or crop failures caused by changing weather patterns.

Discussion

The implementation of indigenous food strategies and the role of local wisdom in enhancing food sovereignty in Papua presents a unique and timely opportunity for sustainable development in the region. Papua, with its rich cultural heritage and diverse ecosystems, has developed food systems deeply rooted in local knowledge that align with environmental and community-based sustainability. In the face of global challenges such as climate change, population growth, and food insecurity, it becomes increasingly clear that indigenous food practices offer essential insights for promoting food sovereignty in Papua and similar regions.

Indigenous Food Strategies in Papua

Indigenous food strategies in Papua are characterized by the cultivation of native crops, the sustainable management of natural resources, and the reliance on traditional knowledge systems. One of the central aspects of these food systems is the use of local varieties of crops, which have been cultivated for generations in harmony with the local environment. These crops, such as sago, yam, and taro, are not only nutritionally rich but are also adapted to the specific ecological conditions of Papua's diverse landscapes, from lowland forests to mountain regions. This relationship between crops and environment allows for a resilient and sustainable food system, one that is less dependent on external inputs such as chemical fertilizers and pesticides, which can degrade soil and harm local biodiversity.

Additionally, traditional farming methods, including agroforestry and shifting cultivation, are important components of Papua's indigenous food systems. These methods are designed to maintain soil fertility, conserve water, and prevent deforestation. They allow local communities to cultivate a diverse range of crops while maintaining ecological balance. Such practices not only support food security but also promote biodiversity, which is essential for resilience against the impacts of climate change. In this way, indigenous food strategies contribute significantly to environmental sustainability and long-term food sovereignty.



Table: Comprehensive Overview of Indigenous Food Strategies in Papua

Category	Element		Description
Local Cultivation	Crop Native Crops	Staple	Crops such as sago (<i>Metroxylon sagu</i>), yam (<i>Dioscorea</i> spp.), and taro (<i>Colocasia esculenta</i>) are cultivated. These crops are deeply embedded in cultural and food practices.
	Crop-Environment Synergy		Local varieties are specifically adapted to ecological zones such as lowland swamp forests, hill regions, and highlands, requiring no external genetic modification.
	Nutritional Value		These crops provide high carbohydrates, fiber, and micronutrients, contributing to balanced diets and food security.
Farming Methods	Agroforestry		Integration of trees and crops mimics natural ecosystems, supports biodiversity, and provides additional resources like fruit, wood, and medicine.
	Shifting Cultivation (Swidden)		Rotational farming that involves clearing small patches, cultivating for a few years, then allowing them to regenerate, which helps preserve soil fertility and prevent erosion.
	Mixed Cropping		Intercropping of multiple plant species reduces pest outbreaks, improves soil structure, and increases yield resilience.
Natural Resource Management	Soil Conservation	Fertility	Techniques like using mulch, compost, and organic matter maintain soil health over long periods without synthetic fertilizers.
	Water Resource Protection		Traditional irrigation systems and crop placement maximize water retention and prevent wastage, particularly in mountainous or seasonally dry areas.
	Forest Stewardship		Forests are managed as part of food systems, providing wild foods (e.g., wild tubers, fruits, bushmeat) and ecological services.
Cultural Knowledge Systems	and Oral Traditions & Rituals		Farming knowledge is passed through oral storytelling, rituals, and communal practices, reinforcing sustainable use of resources.
	Gender Roles		Women often play central roles in crop selection, seed preservation, and food preparation,



Category	Element	Description
		maintaining agro-biodiversity and family nutrition.
	Seasonal Calendars	Indigenous communities use ecological indicators (e.g., bird migration, flowering patterns) to determine planting and harvesting periods.
Environmental and Social Impact	Biodiversity Conservation	Diverse cropping systems and forest integration maintain native species diversity, preventing monoculture and promoting resilience.
	Climate Change Resilience	Systems are naturally resilient due to their diversity, local adaptation, and minimal reliance on external inputs, making them more robust to droughts or floods.
	Food Sovereignty	Indigenous strategies prioritize self-reliance, cultural relevance, and ecological harmony, reducing dependence on imported or industrialized food systems.

Role of Local Wisdom

Local wisdom plays a crucial role in the implementation of indigenous food strategies in Papua. This wisdom, passed down through generations, encompasses a deep understanding of local ecosystems, seasonal cycles, and the interconnectedness between humans and nature. Indigenous communities in Papua have developed intricate knowledge systems that guide their agricultural practices, food gathering, and resource management. For instance, the knowledge of when and where to plant specific crops, how to rotate crops, and the sustainable harvesting of forest resources are essential for maintaining a balanced food system.

Furthermore, local wisdom in Papua emphasizes the importance of community-based food systems. Traditional food-sharing practices, where surplus food is shared within the community or with neighboring tribes, reinforce social cohesion and collective well-being. These practices foster a sense of solidarity, ensuring that food is not only a means of survival but also a vehicle for social connection and cultural identity. The role of local wisdom in these practices extends beyond the practicalities of food production; it reinforces the ethical principles of sustainability, respect for nature, and intergenerational responsibility.

The transmission of this local knowledge is not merely through formal education, but through communal activities, oral traditions, rituals, and ceremonies. In this way, the younger generation learns from the elders, preserving and adapting knowledge to the changing realities of the present. However, one of the critical challenges facing Papua's



food sovereignty today is the erosion of local wisdom due to external influences, such as globalization, urbanization, and the encroachment of modern agricultural techniques that often disregard traditional practices.

Case Study: The Role of Local Wisdom in Papua's Food Sovereignty:

In Papua, Indonesia, local wisdom plays a crucial role in ensuring the sustainability of indigenous food systems. One particular example is the traditional practice of sago cultivation in the central highlands. Sago, a starchy food source, is the backbone of the diet for many Papuan communities, especially in regions with limited access to other agricultural resources.

The indigenous communities in this area use local wisdom passed down through generations to cultivate sago in a way that preserves the ecological balance. The process of sago cultivation involves careful planning to avoid overharvesting. Elders guide younger generations on how to select mature sago palms and how to harvest them sustainably, ensuring that the forest ecosystem is not damaged in the process. This knowledge helps maintain the health of the sago palms and the surrounding environment, ensuring that future generations can continue to rely on this valuable food source.

Additionally, traditional farming methods such as shifting cultivation and agroforestry have been central to sustaining food sovereignty in Papua. In shifting cultivation, land is used temporarily and left to rest for a period, allowing the soil to regenerate and maintain its fertility. Local wisdom in agroforestry involves planting multiple crops that complement each other, reducing the reliance on external inputs like synthetic fertilizers.

This local wisdom, deeply rooted in respect for the environment, not only supports food security but also contributes to environmental sustainability, making it an essential part of Papua's food sovereignty strategy.

Interrelationship Between Indigenous Food Strategies and Food Sovereignty

Food sovereignty in Papua is inextricably linked to the preservation and promotion of indigenous food strategies. Food sovereignty, as defined by La Via Campesina, refers to the right of peoples to define their own food systems, which includes the ability to produce, distribute, and consume food in ways that are culturally appropriate, ecologically sustainable, and socially just. In Papua, indigenous food strategies align closely with the principles of food sovereignty, as they prioritize local production and consumption, respect for cultural food practices, and sustainability.

One of the key contributions of indigenous food strategies to food sovereignty is the diversification of food sources. In contrast to monoculture farming, which is often practiced in industrial agriculture, indigenous systems in Papua emphasize polyculture, where multiple crops are grown together. This increases food security by reducing vulnerability to pests, diseases, and fluctuating market prices. The diverse range of crops also ensures that people in Papua have access to a wide variety of nutrient-rich foods, contributing to better health and nutrition outcomes.



Table: Indigenous Food Strategies and Their Role in Promoting Food Sovereignty in Papua

Food Sovereignty Principle		Indigenous Practice in Papua	Description / Contribution
Local Food Systems	Control Over	Community-based farming and decision-making	Indigenous communities decide what to grow, how to grow, and when to harvest, reinforcing autonomy over their food systems.
Cultural Appropriateness		Preservation of traditional foods like sago, yam, taro, and wild edibles	Local food systems align with cultural values, rituals, and dietary preferences, sustaining cultural identity and heritage.
Ecological Sustainability		Use of shifting cultivation, agroforestry, and natural pest control methods	Farming practices support long-term soil health, biodiversity, and water conservation, minimizing ecological degradation.
Social Equity	Justice and	Inclusive roles of women, elders, and youth in food production and knowledge sharing	Traditional systems promote intergenerational learning, gender equity, and community cohesion in food-related activities.
Diversification of Food Sources		Polyculture farming—mixing multiple crops on the same land	Reduces risks from pests, climate variability, and market dependence, ensuring stable access to food year-round.
Nutrition and Health		Consumption of a variety of local crops, including tubers, fruits, vegetables, and forest foods	Promotes nutritionally balanced diets rich in fiber, vitamins, and minerals, helping reduce malnutrition and diet-related diseases.
Resilience to External Shocks		Reliance on local seed systems and traditional ecological knowledge	Decreases dependence on global food supply chains and increases resilience to market fluctuations, pandemics, or climate crises.
Seed Sovereignty		Preservation of indigenous seed varieties and community-based sharing networks	Ensures that farmers retain control over seeds, supporting genetic diversity and adaptation to local conditions.
Reduced Dependency		Minimal use of synthetic	Food systems operate independently



Food Sovereignty Principle	Indigenous Practice in Papua	Description / Contribution
on Agriculture	Industrial fertilizers, pesticides, and imported technologies	of corporate inputs, reinforcing economic and environmental sovereignty.
Support for Local Economies	Surplus food is often shared, bartered, or sold in local markets	Stimulates local economies, enhances community resilience, and keeps value within the region instead of exporting it outward.

Furthermore, the concept of food sovereignty in Papua is closely tied to the protection of indigenous land and territories. Indigenous food strategies depend on access to land and natural resources, which are often threatened by land grabbing, deforestation, and large-scale agricultural projects. Preserving indigenous land rights is therefore a critical aspect of ensuring food sovereignty, as it safeguards the systems that have sustained local communities for centuries.

Modernization and Challenges

While indigenous food strategies provide valuable solutions to food sovereignty, the implementation of these practices faces numerous challenges in the modern era. The growing influence of external forces, such as global trade and modern agricultural practices, poses a threat to local food systems. The increasing dominance of commercial crops and the commodification of food have led to the displacement of traditional farming methods. Moreover, Papua's food sovereignty is increasingly at risk due to climate change, which affects the predictability of seasonal cycles and the availability of natural resources.

Another significant challenge is the lack of support for indigenous agricultural practices from national policies and development programs. The tendency to prioritize large-scale industrial agriculture in Papua has overlooked the potential of indigenous food systems in addressing food insecurity. This lack of recognition of the value of local knowledge in food production undermines the resilience of Papua's food systems and places food sovereignty at risk.

Despite these challenges, there are opportunities to integrate indigenous food strategies into broader development frameworks. Governments, NGOs, and local communities must work together to create policies that support the preservation of indigenous food systems. This includes providing technical assistance to indigenous farmers, recognizing land rights, and ensuring that education programs incorporate local wisdom. Furthermore, the promotion of indigenous food systems can contribute to the global movement for sustainable food practices and climate resilience.



Case: The Impact of Modernization on Indigenous Food Systems in Papua:

In Papua, the transition from traditional agricultural practices to modern farming methods has resulted in both opportunities and challenges for local food sovereignty. One prominent case is the growing presence of commercial agriculture, such as large-scale palm oil plantations and monocrop farming, which have altered the local agricultural landscape.

In some areas, the expansion of palm oil plantations has led to the displacement of indigenous farming communities who traditionally relied on diverse crop cultivation, including sago, yam, and taro. These crops have been integral to Papua's food systems, providing not only nutrition but also cultural identity. As modern farming practices are introduced, the use of chemical fertilizers and pesticides has increased, leading to concerns about environmental degradation, soil depletion, and the loss of local biodiversity.

Moreover, the introduction of modern technology, such as machinery for large-scale farming, has contributed to the marginalization of indigenous knowledge systems. Younger generations are increasingly disconnected from their ancestral farming practices, and there is a growing reliance on external food sources. This trend threatens the sustainability of local food systems and undermines food sovereignty in the region.

While modernization brings economic benefits, such as increased production and income opportunities, it also presents a significant challenge to preserving Papua's indigenous food strategies and maintaining a resilient, sustainable food system. Balancing the advantages of modernization with the preservation of local food practices is a critical issue in ensuring long-term food sovereignty in Papua.

CONCLUSION

The implementation of indigenous food strategies and the role of local wisdom in Papua's food sovereignty is a crucial area for research and action. By emphasizing the importance of indigenous knowledge, sustainable agricultural practices, and community-based food systems, Papua can strengthen its food sovereignty and resilience. The integration of these strategies into modern development frameworks can offer valuable lessons for other regions facing similar challenges. The preservation of local wisdom is essential not only for safeguarding food security in Papua but also for contributing to the global conversation on sustainable food systems, environmental conservation, and cultural heritage preservation. Therefore, recognizing and supporting indigenous food systems is an essential step toward ensuring a sustainable and just food future for Papua and beyond.

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