



Nutritional Marronage: Reclaiming Local Agroecological Diets as a Structural Defence against the Diabetogenic Nutrition Transition in Rural Jamaica

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Abstract

The Caribbean region is facing a severe epidemic of metabolic non-communicable diseases (NCDs), including type 2 diabetes mellitus, obesity, hypertension, and cardiovascular disease. Jamaica exemplifies this public health challenge as traditional dietary systems have increasingly been replaced by imported ultra-processed foods through a process commonly referred to as the nutrition transition. Existing public health approaches frequently emphasise individual behavioural modification while neglecting the historical, political, and economic structures that shape dietary patterns. This paper introduces the concept of **Nutritional Marronage**, a decolonial and agroecological framework that conceptualises the deliberate return to traditional Afro-Jamaican food systems as both a public health intervention and an act of cultural resistance. Drawing upon political economy, food sovereignty theory, community cultural wealth theory, and decolonial scholarship, the study examines the historical foundations of provision grounds, backyard food forests, ethnobotanical traditions, and intergenerational food-sharing networks. The paper argues that traditional Jamaican diets, characterised by low-glycaemic root crops, wild-foraged greens, medicinal plants, and agroecological farming systems, provide a structural defence against the diabetogenic effects of globalisation. The study identifies a significant gap in the literature concerning culturally grounded public health frameworks that integrate ancestral food knowledge, food sovereignty, and metabolic health. Policy recommendations emphasise agroecological agriculture, nutrition education, the protection of indigenous knowledge systems, and the strengthening of local food economies. Nutritional Marronage emerges as a viable strategy for improving health outcomes, enhancing food security, promoting climate resilience, and advancing community self-determination in Jamaica and other Caribbean Small Island Developing States (SIDS).

Keywords: Nutritional Marronage, Jamaica, food sovereignty, diabetes, nutrition transition, agroecology, metabolic health, public health.

Introduction

Non-communicable diseases (NCDs) have become the leading cause of morbidity and mortality worldwide, accounting for approximately 74% of all global deaths [1]. Within the Caribbean, the burden of NCDs, particularly obesity, hypertension, cardiovascular disease, and type 2 diabetes mellitus, has reached alarming levels and poses significant challenges for public health systems and national development [2,3]. Jamaica exemplifies this crisis, having experienced substantial increases in metabolic diseases over the past three decades [4]. These trends are closely linked to broader transformations in food systems driven by globalisation, trade liberalisation, urbanisation, and changing consumption patterns. Such structural changes have accelerated the nutrition transition, whereby traditional diets have increasingly been replaced by highly processed, energy-dense foods rich in sugar, sodium, unhealthy fats, and artificial additives [5–7]. The widespread availability and affordability of these products have fundamentally altered dietary behaviours throughout Jamaica and the wider Caribbean.

Historically, Jamaican dietary practices were centred on locally cultivated root crops, fruits, vegetables, legumes, and minimally processed foods produced through provision grounds, backyard food forests, and smallholder farming systems [8]. These food systems emerged through the adaptive strategies of enslaved Africans, Maroons, and rural agricultural communities and contributed not only to nutrition but also to ecological sustainability, biodiversity, self-reliance, and cultural continuity [8,9]. However, the progressive erosion of traditional food systems has coincided with increasing dependence on imported food products and the growing dominance of transnational food corporations within local markets [6,10]. This shift has weakened food sovereignty, increased vulnerability to global supply-chain disruptions, and contributed to the rising prevalence of metabolic diseases and food insecurity across Jamaican communities [11]. Consequently, there is an urgent need to reconsider the role of traditional food systems in promoting health and resilience.

This study introduces the concept of Nutritional Marronage as a culturally grounded and agroecological framework for understanding how traditional Afro-Jamaican food systems may serve as a protective mechanism against the adverse health consequences of the nutrition transition [8]. Inspired by the historical resistance of Jamaican Maroons to colonial domination, Nutritional Marronage refers to the intentional reclamation of localised, culturally rooted dietary practices, agricultural traditions, and ecological stewardship as pathways to health promotion, food sovereignty, and community resilience. The framework challenges deficit-oriented public health narratives that often portray rural communities primarily through lenses of poverty and deprivation and instead recognises traditional food systems as repositories of ecological knowledge, cultural wealth, and health-promoting practices [12]. By highlighting indigenous knowledge, community strengths, and sustainable food production systems, Nutritional Marronage offers a multidimensional approach to addressing contemporary public health challenges and provides a foundation for developing

culturally relevant policies aimed at improving health outcomes, food security, and sustainable development in Jamaica and other Caribbean Small Island Developing States.

Research Gap

Despite extensive scholarship on nutrition transitions, diabetes, obesity, and food insecurity, important gaps remain in understanding the structural determinants of metabolic health. Much of the existing literature focuses predominantly on individual behavioural risk factors such as diet, physical activity, smoking, and alcohol consumption, while paying insufficient attention to the historical, political, and economic forces that shape food environments and dietary choices [2,3,13]. Furthermore, public health research in the Caribbean has frequently adopted deficit-oriented perspectives that emphasise poverty, vulnerability, and resource limitations among rural populations, often overlooking the ecological knowledge, agricultural biodiversity, and cultural assets embedded within traditional food systems [12]. Consequently, local strengths and community-based mechanisms that may contribute to health resilience remain underexplored within both research and policy frameworks.

A second major gap concerns the limited examination of food sovereignty, traditional agroecological systems, and intergenerational knowledge transmission within the Caribbean context. Although food sovereignty scholarship has expanded globally, relatively few studies have investigated how traditional Jamaican food practices function as forms of resistance to dietary colonialism, economic dependency, and the influence of transnational food corporations [14,15]. Similarly, research on traditional Jamaican agriculture has largely concentrated on biodiversity conservation, food production, and rural livelihoods, with limited attention to their implications for metabolic health outcomes [8,9]. Existing studies also provide insufficient understanding of how ancestral knowledge regarding food cultivation, medicinal plants, food preparation, and communal food sharing is transmitted across generations and contributes to household resilience, nutritional wellbeing, and food security [8,24].

Finally, there remains a significant lack of interdisciplinary integration among public health nutrition, agroecology, anthropology, political economy, and decolonial theory in studies of Caribbean food systems [16]. This disciplinary fragmentation has limited understanding of the interconnected relationships among food, culture, identity, environment, and health, thereby restricting the development of holistic and culturally relevant interventions. Most importantly, no known study has explicitly conceptualised traditional Afro-Jamaican dietary practices through the framework of Nutritional Marronage, linking ancestral food systems simultaneously to diabetes prevention, food sovereignty, environmental sustainability, cultural continuity, and health resilience [8,9,14,15]. Addressing these gaps is essential for advancing a culturally grounded and theoretically integrated framework capable of informing public health policy, sustainable agriculture, and community development in Jamaica and other Caribbean Small Island Developing States.

Objectives

General Objective

To examine Nutritional Marronage as a culturally grounded framework for addressing metabolic non-communicable diseases and food insecurity in rural Jamaica.

Specific Objectives

1. To explore the historical foundations of Afro-Jamaican food systems.
2. To examine the relationship between the nutrition transition and metabolic diseases.
3. To assess the nutritional and epidemiological value of traditional agroecological diets.
4. To analyse the role of food sovereignty and intergenerational knowledge transmission in community resilience.
5. To develop policy recommendations for promoting Nutritional Marronage within public health and agricultural systems.

Theoretical Framework

Understanding the complex relationships among food systems, health outcomes, cultural identity, and environmental sustainability requires a multidisciplinary theoretical perspective. The concept of Nutritional Marronage extends beyond conventional nutritional analyses by situating dietary behaviours within broader historical, socio-political, economic, and ecological contexts. Consequently, this study adopts an integrated theoretical framework that draws upon the Political Economy of Health, Food Sovereignty Theory, Community Cultural Wealth Theory, and Decolonial Theory. Together, these perspectives provide a comprehensive lens through which the nutritional, cultural, and structural dimensions of traditional Afro-Jamaican food systems can be examined.

The Political Economy of Health perspective highlights the influence of global economic structures, trade policies, and social inequalities on population health outcomes. Food Sovereignty Theory emphasises the rights of communities to maintain control over their food systems and agricultural resources, while Community Cultural Wealth Theory recognises the strengths, knowledge systems, and adaptive capacities embedded within local communities. Decolonial Theory further contributes by examining how colonial legacies continue to shape contemporary food environments, cultural practices, and patterns of dependency. Collectively, these theories provide a robust conceptual foundation for understanding how traditional Jamaican foodways function as mechanisms of health promotion, cultural preservation, and community resilience.

The integration of these theoretical perspectives is particularly relevant to the Jamaican context, where the nutrition transition has occurred alongside increasing food import dependency, environmental vulnerability, and rising rates of metabolic non-communicable diseases. Traditional food systems developed by enslaved Africans, Maroons, and rural agricultural communities represent more than historical practices; they embody forms of resistance, adaptation, and self-determination that continue to influence contemporary

livelihoods. By examining these systems through multiple theoretical lenses, this study moves beyond deficit-based interpretations of rural food practices and instead highlights their potential contributions to health and sustainable development. The resulting framework provides a basis for understanding Nutritional Marronage as both a public health intervention and a strategy for strengthening food sovereignty in Jamaica.

Political Economy of Health

Political economy perspectives argue that health outcomes are shaped by broader social, economic, and political structures rather than solely by individual behaviours [17]. This perspective emphasises that disease patterns are often influenced by inequalities in access to resources, economic opportunities, and social support systems. The increasing prevalence of diabetes in Jamaica reflects not only dietary choices but also the influence of global food markets, trade policies, and economic dependency. Understanding these structural determinants is essential for developing interventions that address the root causes of metabolic diseases rather than merely their symptoms.

Food Sovereignty Theory

Food sovereignty emphasises the right of communities to define their own food systems, maintain local agricultural production, and control access to land, seeds, and natural resources [14]. The theory emerged as a response to growing concerns regarding global food insecurity, agricultural industrialisation, and corporate control of food systems. Nutritional Marronage aligns closely with food sovereignty by advocating local food production and reducing dependence on imported processed foods. Through this lens, traditional Jamaican food systems can be understood as mechanisms for promoting both community autonomy and public health.

Community Cultural Wealth Theory

Community Cultural Wealth Theory challenges deficit models by recognising the strengths, knowledge systems, and resources present within marginalised communities [12]. Rather than focusing on perceived limitations, the theory highlights forms of cultural capital that support resilience, adaptation, and collective well-being. Traditional Jamaican foodways represent valuable forms of cultural capital that contribute to both nutritional well-being and community resilience. These practices preserve historical knowledge while simultaneously providing practical solutions to contemporary health and food security challenges.

Decolonial Theory

Decolonial theory critiques the continuing influence of colonial structures on contemporary societies and examines how historical power relations continue to shape knowledge, culture, and economic systems [18]. Within the context of food systems, colonial legacies are often reflected in patterns of food import dependency and the devaluation of indigenous food practices. Imported food dependency can be interpreted as a form of dietary colonialism that perpetuates economic and cultural subordination. Nutritional Marronage represents a strategy

for reclaiming indigenous knowledge systems, strengthening local food sovereignty, and promoting self-determination.

Literature Review

The Nutrition Transition and Metabolic Disease

The nutrition transition has transformed dietary behaviours across low- and middle-income countries, particularly within rapidly globalising societies [5]. Traditional diets characterised by complex carbohydrates, fruits, vegetables, and plant-based foods have increasingly been replaced by processed foods rich in refined sugars, saturated fats, and chemical additives [7]. These dietary changes have contributed significantly to the global rise in obesity, diabetes, and other chronic diseases. Consequently, the nutrition transition has become a major concern for public health researchers and policymakers.

Research demonstrates strong associations between ultra-processed food consumption and obesity, type 2 diabetes, cardiovascular disease, and all-cause mortality [19,20]. Such foods often contain excessive amounts of sodium, sugar, and unhealthy fats while providing limited nutritional value. The Caribbean has become particularly vulnerable due to high levels of food import dependency and limited domestic agricultural production [6]. As a result, many Caribbean societies are experiencing a growing burden of diet-related chronic diseases.

Studies conducted in Jamaica indicate that imported food products now account for a substantial proportion of caloric intake among many households [4]. The increasing availability of processed foods has altered dietary preferences and reduced reliance on traditional foods. This dietary shift has coincided with increasing rates of obesity and diabetes, suggesting a significant relationship between changing food environments and health outcomes. These trends highlight the need for culturally relevant interventions that encourage healthier dietary practices.

Historical Development of Provision Grounds

Provision grounds emerged during slavery as plots allocated to enslaved Africans for food cultivation [8]. These spaces became essential sources of nutrition, economic autonomy, and cultural continuity within plantation societies. Over time, provision grounds evolved into complex agroecological systems characterised by crop diversity, environmental adaptation, and sustainable agricultural practices. They also provided opportunities for enslaved populations to preserve African agricultural traditions and food knowledge.

Maroon communities further refined these systems by cultivating food in mountainous terrains unsuitable for plantation agriculture [9]. Through experimentation and local ecological knowledge, they developed sustainable agricultural practices capable of supporting food security under challenging environmental conditions. These systems relied on biodiversity, mixed cropping, and environmental stewardship to maximise productivity while minimising ecological degradation. The agricultural innovations developed by Maroon communities continue to influence rural food production practices in Jamaica today.

Agroecological Systems and Nutritional Value

Agroecological farming systems emphasise biodiversity, ecological sustainability, and minimal external inputs [15]. Traditional Jamaican agroecosystems incorporate multiple layers of vegetation, including fruit trees, shrubs, vegetables, medicinal plants, and root crops. This diversity enhances ecosystem stability while simultaneously improving dietary diversity and nutritional quality. Consequently, agroecological farming contributes to both environmental sustainability and human health.

Root crops such as yams, cassava, and dasheen possess low glycaemic indices and high fibre content [21]. These characteristics contribute to slower glucose absorption, improved satiety, and enhanced metabolic regulation. Additionally, many indigenous plants contain bioactive compounds with antioxidant and anti-inflammatory properties that support overall health [22]. Such nutritional characteristics make traditional foods particularly valuable in the prevention and management of chronic diseases.

Research indicates that traditional plant-based diets are associated with lower rates of obesity, diabetes, and cardiovascular disease [23]. These dietary patterns typically contain higher levels of fibre, vitamins, minerals, and phytochemicals than heavily processed alternatives. Consequently, preserving agroecological food systems may provide significant public health benefits while simultaneously promoting environmental sustainability. Such findings support the integration of traditional dietary practices into contemporary health promotion strategies.

Intergenerational Knowledge Transmission

Traditional food knowledge is often transmitted through oral traditions, practical learning, and communal participation [24]. Within many rural Jamaican communities, knowledge concerning crop cultivation, medicinal plants, and food preparation is shared across generations. Rural yards function as living classrooms where younger generations learn agricultural skills and cultural practices through observation and participation. This process contributes to the preservation of both food systems and cultural identity.

Such knowledge transmission contributes to food sovereignty and resilience by ensuring continuity of agricultural practices across generations [24]. It also strengthens social cohesion and reinforces collective responsibility for food production and environmental stewardship. These cultural processes are particularly important in contexts where formal educational systems may not adequately address local ecological knowledge. Preserving these traditions is essential for maintaining sustainable food systems and community resilience.

Methods and Materials

Study Design

This study employed a conceptual and interdisciplinary research design to develop and examine the framework of Nutritional Marronage as a public health response to the nutrition transition and the growing burden of metabolic non-communicable diseases in Jamaica. Conceptual research is particularly useful for generating new theoretical perspectives,

integrating existing bodies of knowledge, and advancing innovative frameworks capable of addressing complex social and health challenges. The study did not involve primary data collection, experimental procedures, or human participants. Instead, it synthesised evidence from multiple disciplines to construct a comprehensive theoretical model linking traditional Afro-Jamaican food systems with metabolic health, food sovereignty, and community resilience.

Research Approach

A narrative review and theoretical synthesis approach was adopted to explore the historical, nutritional, ecological, and socio-political dimensions of traditional Jamaican food systems. This approach facilitated the integration of diverse sources of evidence drawn from public health, nutrition science, agroecology, anthropology, rural development, Caribbean studies, and decolonial scholarship. Narrative synthesis was considered appropriate because it allows for the examination of complex phenomena that cannot be adequately understood through a single disciplinary perspective. Furthermore, the approach enabled the identification of relationships among historical food practices, contemporary dietary patterns, and health outcomes.

Data Sources

The study utilised secondary sources obtained from peer-reviewed journal articles, books, technical reports, policy documents, and international agency publications. Sources were identified from databases including PubMed, Scopus, Web of Science, Google Scholar, and institutional repositories maintained by organisations such as the World Health Organization (WHO), Pan American Health Organization (PAHO), Food and Agriculture Organization (FAO), Caribbean Public Health Agency (CARPHA), and United Nations agencies. Additional literature relating to Jamaican agriculture, Maroon history, ethnobotany, and food sovereignty was obtained from academic monographs, historical records, and regional development reports. The inclusion of diverse data sources ensured a comprehensive understanding of the interconnected dimensions of food systems and health.

Literature Selection Criteria

Literature included in the study was selected based on its relevance to one or more of the following themes: nutrition transition, non-communicable diseases, traditional Caribbean diets, food sovereignty, agroecology, Maroon food systems, ethnobotany, community resilience, and decolonial theory. Preference was given to peer-reviewed publications, authoritative institutional reports, and studies conducted within Caribbean or Small Island Developing State contexts. Articles that provided empirical evidence regarding dietary patterns, metabolic health outcomes, traditional agriculture, or food system transformations were prioritised. Publications lacking methodological rigour or direct relevance to the study objectives were excluded from the synthesis.

Conceptual Development of Nutritional Marronage

The framework of Nutritional Marronage was developed through an iterative process of theoretical integration and thematic analysis. Concepts emerging from the literature were examined to identify recurring themes related to traditional food production, food sovereignty, cultural resilience, metabolic health, and resistance to external food dependency. These themes were then organised into a conceptual framework that links historical Maroon agricultural practices with contemporary public health concerns. The resulting model positions traditional food systems as both a cultural resource and a structural mechanism for promoting health resilience.

Analytical Framework

The analysis was guided by four complementary theoretical perspectives: Political Economy of Health, Food Sovereignty Theory, Community Cultural Wealth Theory, and Decolonial Theory. These frameworks were used to interpret how historical and contemporary food systems influence dietary behaviours, health outcomes, and community resilience. The integration of multiple theories facilitated a multidimensional understanding of the nutrition transition and its consequences within the Jamaican context. This theoretical triangulation also strengthened the explanatory capacity of the Nutritional Marronage framework.

Trustworthiness and Rigour

To enhance conceptual rigour, evidence was drawn from multiple disciplines and compared across different sources to identify consistent patterns and themes. For this study, attention was given to studies examining Caribbean food systems, traditional agricultural practices, and the epidemiology of non-communicable diseases. Triangulation of evidence from public health, agricultural, historical, and sociological literature strengthened the credibility of the conceptual framework. The use of established theoretical perspectives further enhanced the coherence and validity of the study's interpretations.

Ethical Considerations

The study relied exclusively on publicly available secondary data and published literature and did not require ethical approval from an institutional review board. No human participants were recruited, interviewed, or observed during the conduct of the research. Additionally, no identifiable personal information was collected or analysed. The study adhered to accepted standards of academic integrity through appropriate citation and acknowledgement of all sources consulted.

Limitations of the Methodology

As a conceptual study, the findings are dependent upon the quality and scope of the existing literature and do not provide direct empirical evidence regarding the effectiveness of Nutritional Marronage in reducing non-communicable diseases. The framework proposed should be regarded as a theoretical model requiring future empirical validation through qualitative, quantitative, and mixed-methods research. Furthermore, some historical and

ethnobotanical sources may reflect context-specific experiences that are not generalisable to all Jamaican communities. Despite these limitations, the study provides a valuable foundation for future investigations into the relationships among traditional food systems, health, and community resilience.

Findings and Discussion

The findings of this study suggest that Nutritional Marronage provides a novel and theoretically robust framework for addressing the growing burden of metabolic non-communicable diseases (NCDs) in Jamaica. Consistent with the literature on the nutrition transition, the increasing prevalence of obesity, type 2 diabetes mellitus, and other chronic diseases appears closely linked to the replacement of traditional diets with imported ultra-processed foods [5,7,19,20]. Previous studies have documented the adverse health effects associated with excessive consumption of processed foods, including increased risks of obesity, cardiovascular disease, and diabetes [19,20]. The present study extends this literature by arguing that dietary transformation in Jamaica cannot be understood solely as a matter of individual food choices but must be interpreted within broader historical, political, and economic processes that have reshaped local food systems. The concept of Nutritional Marronage shifts the focus from behavioural explanations toward structural determinants of health and highlights the importance of reclaiming traditional food systems as a means of improving population health.

The findings also reinforce the relevance of the Political Economy of Health perspective, which posits that health outcomes are shaped by social, economic, and political structures rather than individual behaviours alone [17]. Jamaica's increasing dependence on imported food commodities reflects broader global processes of trade liberalisation, food market integration, and economic dependency that have altered dietary environments throughout the Caribbean [6,11]. The growing availability and affordability of ultra-processed foods have undermined local agricultural production and weakened food sovereignty, thereby contributing to unhealthy dietary patterns and increasing metabolic disease risk. From a political economy perspective, diabetes and obesity represent not merely biomedical conditions, but manifestations of structural inequalities embedded within global food systems. Consequently, interventions focused exclusively on individual behaviour change are unlikely to achieve sustainable improvements unless accompanied by broader efforts to strengthen local food production and reduce dependence on imported foods.

A key finding of the study is that traditional Jamaican agroecological food systems possess characteristics that are inherently protective against metabolic diseases. The literature demonstrates that root crops such as yams, cassava, and dasheen are rich in complex carbohydrates and fibre and generally exhibit lower glycaemic indices than refined processed foods [21]. Similarly, traditional vegetables and medicinal plants provide antioxidants, micronutrients, and anti-inflammatory compounds that support metabolic health [22]. These findings align with international evidence indicating that plant-based diets are associated with lower risks of obesity, diabetes, and cardiovascular disease [23]. Nutritional Marronage provides a useful framework for understanding how ancestral dietary practices may function

as a structural defence against the diabetogenic effects of the nutrition transition. Rather than viewing traditional foods as relics of the past, the study demonstrates their continuing relevance as evidence-based tools for chronic disease prevention and health promotion.

The findings further support the principles of Food Sovereignty Theory, which emphasises the right of communities to define and control their own food systems [14]. Existing scholarship has highlighted the importance of local food production, biodiversity, and community control over agricultural resources in strengthening food security and resilience [14,15]. The present study extends this perspective by illustrating how traditional Jamaican food systems contribute not only to food availability but also to improved nutritional outcomes and reduced vulnerability to global economic shocks. The preservation of backyard food forests, provision grounds, seed-saving practices, and local food-sharing networks represents an important mechanism through which communities can maintain autonomy over food production and consumption. In this context, Nutritional Marronage emerges as both a public health strategy and a form of resistance against food-system dependency.

The study also highlights the significance of Community Cultural Wealth Theory in understanding the role of traditional food systems within rural Jamaican communities [12]. Conventional public health research often portrays rural populations through deficit-based narratives that emphasise poverty, isolation, and vulnerability. However, the findings indicate that these communities possess substantial cultural assets, including agricultural knowledge, ethnobotanical expertise, food preservation techniques, and communal food-sharing traditions. These forms of cultural capital contribute to resilience, social cohesion, and nutritional well-being. The transmission of food knowledge across generations serves not only to preserve cultural identity but also to sustain practical skills that enhance household food security and health outcomes. By recognising these assets, Nutritional Marronage challenges dominant assumptions that solutions to chronic disease must originate externally rather than from within communities themselves.

The findings additionally provide support for Decolonial Theory by demonstrating how traditional Afro-Jamaican food practices can be interpreted as acts of cultural resistance and self-determination [18]. Colonialism fundamentally transformed Caribbean food systems by prioritising export-oriented plantation agriculture while marginalising indigenous and African food practices. Contemporary dependence on imported processed foods may be viewed as a continuation of historical patterns of economic and cultural dependency. Nutritional Marronage offers an alternative pathway that reclaims ancestral food knowledge and repositions traditional dietary practices as sources of empowerment, identity, and well-being. Through this lens, the promotion of local food systems represents not only a nutritional intervention but also a decolonial project aimed at restoring community autonomy and strengthening cultural continuity.

An important contribution of this study is the integration of health, agriculture, culture, and environmental sustainability within a single conceptual framework. Previous research has frequently examined these domains independently, resulting in fragmented understandings of food systems and health outcomes [16]. The present study demonstrates that traditional

agroecological systems simultaneously support biodiversity conservation, climate resilience, food security, cultural preservation, and metabolic health. Such interconnected benefits are particularly important for Small Island Developing States, which face increasing vulnerabilities associated with climate change, food import dependency, and rising NCD prevalence [11,25]. By adopting a systems perspective, Nutritional Marronage provides a more comprehensive approach to health promotion than interventions that focus narrowly on individual behaviour modification.

Collectively, the findings suggest that improving metabolic health in Jamaica requires more than nutritional education alone. Sustainable reductions in diabetes, obesity, and related chronic diseases will depend upon policies that strengthen local agriculture, protect indigenous knowledge systems, support agroecological food production, and encourage community participation in food sovereignty initiatives. The theoretical integration achieved through Nutritional Marronage provides a foundation for understanding how traditional food systems can simultaneously promote health resilience, environmental sustainability, cultural continuity, and economic self-determination. As such, the framework contributes a new perspective to Caribbean public health scholarship and offers a promising pathway for addressing the intertwined challenges of chronic disease, food insecurity, and sustainable development.

Policy Recommendations

Ministry of Health and Wellness

The Ministry of Health and Wellness should develop national nutrition campaigns promoting traditional Jamaican foods as preventive interventions against diabetes and hypertension [2,21]. These campaigns should highlight the nutritional value of root crops, legumes, fruits, vegetables, and traditional medicinal plants. Community-based education programmes can be used to increase awareness of the health benefits associated with traditional dietary practices. Such initiatives would support both disease prevention and health promotion efforts across Jamaica.

Ministry of Agriculture and Fisheries

The Ministry of Agriculture and Fisheries should expand support for agroecological farming and strengthen local food production systems [15]. Financial incentives, technical assistance, and land protection policies should be provided to smallholder farmers engaged in sustainable agriculture. Increased investment in local food production would enhance food security while reducing dependence on imported foods. These measures would also contribute to environmental sustainability and rural economic development.

Ministry of Education

The Ministry of Education should integrate agricultural heritage, ethnobotanical knowledge, and food sovereignty principles into school curricula [24]. Students should be exposed to practical learning opportunities through school gardens and community-based agricultural

projects. Such initiatives would facilitate the transmission of traditional knowledge while encouraging healthy dietary behaviours among young people. Educational reforms of this nature could play a significant role in preserving Jamaica's agricultural and cultural heritage.

Local Government Authorities

Local government authorities should support community gardens, farmers' markets, seed banks, and local food cooperatives [14]. These initiatives can improve access to fresh foods while strengthening local food economies and social networks. Community-based food projects also encourage collective participation and foster greater food sovereignty. Consequently, local governments have an important role to play in promoting Nutritional Marronage at the community level.

Universities and Research Institutions

Universities and research institutions should conduct longitudinal studies evaluating the health effects of traditional Jamaican dietary patterns and agroecological food systems [21,23]. Additional research is needed to examine the relationships among traditional food practices, metabolic health, food security, and environmental sustainability. Such evidence would strengthen the empirical foundation of Nutritional Marronage and support evidence-based policymaking. Research collaborations involving public health, agriculture, anthropology, and environmental sciences should be encouraged.

Conclusion

Nutritional Marronage provides a novel framework for understanding the relationship between food systems, health, culture, and resilience in Jamaica. The concept recognises traditional Afro-Jamaican dietary practices as valuable resources capable of addressing contemporary challenges associated with diabetes, obesity, food insecurity, and environmental change. By repositioning traditional food systems as assets rather than remnants of the past, the framework offers a new perspective on public health promotion. It also highlights the importance of cultural knowledge and community agency in shaping health outcomes.

By integrating political economy, food sovereignty, agroecology, and decolonial theory, Nutritional Marronage shifts public health discourse away from deficit-based narratives and toward community strengths. Traditional food systems offer nutritional, ecological, cultural, and economic benefits that remain highly relevant in contemporary society. These benefits demonstrate the importance of preserving and revitalising ancestral food practices in the face of ongoing globalisation and dietary change. Such an approach can contribute meaningfully to sustainable development and population health improvement.

The study identified a significant gap in the literature regarding culturally grounded frameworks linking ancestral food practices to public health outcomes. Nutritional Marronage addresses this gap by conceptualising traditional diets as forms of resistance, resilience, and health promotion. The framework contributes to emerging discussions

concerning food sovereignty, decolonisation, and sustainable food systems. In doing so, it expands the theoretical and practical understanding of health promotion within Caribbean contexts.

Future policy initiatives should prioritise local food production, nutrition education, protection of indigenous knowledge systems, and community-led food sovereignty programmes. Such interventions have the potential to improve metabolic health outcomes while simultaneously strengthening cultural identity and environmental sustainability. Long-term success will depend on collaboration among policymakers, researchers, educators, healthcare professionals, and community members. Through these collective efforts, Nutritional Marronage can serve as a pathway toward healthier, more resilient, and more sustainable Jamaican communities.

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Appendix A

Figure A1. Conceptual Model of Nutritional Marronage
Framework Linking Nutritional Marronage to Community Health Outcomes



Appendix B

Traditional Jamaican Foods and Their Nutritional Characteristics

Table B1. Selected Foods Supporting Nutritional Marronage

Food Item	Scientific Name	Major Nutrients	Glycaemic Impact	Health Benefits
Yellow Yam	<i>Dioscorea cayenensis</i>	Complex carbohydrates, fibre	Low	Sustained energy release
Dasheen	<i>Colocasia esculenta</i>	Potassium, fibre	Low	Glycaemic regulation
Cassava	<i>Manihot esculenta</i>	Resistant starch	Moderate-Low	Digestive health
Breadfruit	<i>Artocarpus altilis</i>	Fibre, potassium	Moderate	Cardiovascular support
Callaloo	<i>Amaranthus viridis</i>	Iron, folate, antioxidants	Very low	Anti-inflammatory properties
Ackee	<i>Blighia sapida</i>	Healthy fats, protein	Low	Lipid metabolism support
Pigeon Peas	<i>Cajanus cajan</i>	Protein, fibre	Low	Blood glucose control
Sarsaparilla	<i>Smilax regelii</i>	Saponins	Very low	Anti-inflammatory effects
Chainey Root	<i>Smilax balbisiana</i>	Phytochemicals	Very low	Traditional medicinal use

Appendix c

Comparative Dietary Profile

Table C1. Traditional Diet versus Ultra-Processed Diet

Characteristic	Traditional Afro-Jamaican Diet	Ultra-Processed Diet
Fibre	High	Low
Added Sugar	Minimal	High
Sodium	Low	High
Micronutrients	High	Low
Processing Level	Minimal	Extensive
Glycaemic Load	Low to Moderate	High
Environmental Impact	Low	High
Food Sovereignty	High	Low
Diabetes Risk	Lower	Higher

Source: Adapted from Marrero and Mattei [6], Monteiro et al. [19], and FAO [10].

Appendix D

Policy Framework for Nutritional Marronage

Table D1. Proposed National Intervention Framework

Sector	Intervention	Expected Outcome
Health	Community nutrition programmes	Reduced NCD prevalence
Agriculture	Support for agroecological farming	Increased local food production
Education	School food sovereignty curriculum	Preservation of traditional knowledge
Local Government	Farmers' markets and food hubs	Improved food accessibility
Research	Longitudinal nutrition studies	Evidence-based policy development
Environment	Biodiversity conservation	Climate resilience

Appendix E

Traditional Jamaican Medicinal Plants Associated with Nutritional Marronage

Table E1. Ethnobotanical Resources

Plant	Traditional Use	Potential Scientific Benefit
Cerasee (<i>Momordica charantia</i>)	Blood cleansing	Blood glucose regulation
Sarsaparilla (<i>Smilax regelii</i>)	Energy tonic	Anti-inflammatory effects
Fever Grass (<i>Cymbopogon citratus</i>)	Digestive aid	Antioxidant activity
Guinea Hen Weed (<i>Petiveria alliacea</i>)	General wellness	Immunomodulatory properties
Ginger (<i>Zingiber officinale</i>)	Digestive health	Anti-inflammatory activity
Turmeric (<i>Curcuma longa</i>)	Pain management	Metabolic regulation

Appendix f

Proposed Community Nutritional Marronage Assessment Tool

Nutritional Marronage Index (NMI)

Researchers may assess household adherence using the following indicators:

Indicator	Score
Consumes yams ≥ 3 times weekly	1
Consumes callaloo ≥ 2 times weekly	1
Maintains a backyard garden	1
Participates in food sharing	1
Uses medicinal plants	1
Purchases local foods weekly	1

Consumes ultra-processed foods <3 times weekly	1
Practices seed saving	1
Participates in local farming	1
Transmits food knowledge to younger generations	1

Scoring

- 0–3 = Low Nutritional Marronage
- 4–6 = Moderate Nutritional Marronage
- 7–10 = High Nutritional Marronage

Appendix G

Proposed Research Agenda

Priority Research Questions

1. Does adherence to Nutritional Marronage reduce diabetes incidence among rural Jamaicans?
2. What relationship exists between backyard food forests and household food security?
3. How does food sharing influence nutritional resilience during economic crises?
4. Can traditional root crops improve glycaemic control among diabetic patients?
5. What role does intergenerational knowledge transmission play in sustaining food sovereignty?
6. How does climate change affect traditional agroecological food systems?
7. What economic benefits are associated with local food sovereignty programmes?

Appendix H

Nutritional Marronage Policy Logic Model

Inputs	Activities	Outputs	Outcomes	Impact
Government funding	Nutrition education	Community workshops	Improved dietary behaviours	Reduced NCD burden
Agricultural support	Seed distribution	Increased local production	Enhanced food security	Health sovereignty
School programmes	Traditional food curriculum	Student engagement	Knowledge retention	Cultural preservation
Community leadership	Food-sharing networks	Increased participation	Social cohesion	Sustainable development