

# Towards New and Robust Food and Nutrition Security and Sovereignty Outcomes in CARICOM Countries

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**Abstract** This paper proposes a new framework to advance food and nutrition security and sovereignty in Caribbean Common Market (CARICOM) countries. This “Food and Nutrition Security and Sovereignty” approach, integrates both the Food Sovereignty (FSv) and the Food and Nutrition Security (FNS) approaches into a single, unifying framework. It also elevates FSv to the same level that the FNS approach has occupied in the regional FNS policy space over the past two decades. Despite decades of praxis in the region’s food systems by policy makers, FNS outcomes have not met expectations. These outcomes are rooted, inter alia, in the conceptual framework of the FNS approach that has dominated FNS analyses and related policy prescriptions in the region over the past two decades. At the same time, the FSv approach has rarely been countenanced by governments in the region and their international partners, even though its *raison d’être* is to advance the development agenda of small and medium scale food producers. The new framework emphasizes the urgency to address nutrition security, in light of increasing prevalence of nutrition-related chronic diseases, and their co-morbidities, in CARICOM countries. It also places a premium on the Right to Food, governance for FNS and sovereignty, empowerment of small/medium scale food producers, management of food imports, maintenance of agro-ecological integrity, and the sustainability of food systems. The characteristics of a Rights-based sustainable food system are articulated, and a policy framework is developed for advancing food and nutrition security and sovereignty in the region and elsewhere. The paper draws from the recent literature on the FNS and FSv approaches, the state of food and nutrition security and sovereignty in CARICOM countries, and over two decades of the authors’ uninterrupted experiences working on FNS, poverty, and vulnerability issues in Caribbean countries.

**Keywords:** *food and nutrition security, food sovereignty, nutrition and health, sustainable food systems, CARICOM*

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## 1. Introduction

This paper engages the concepts of food and nutrition security (FNS), and food sovereignty (FSv), with the aim of designing an appropriate conceptual framework to guide analyses and policy prescriptions on food and nutrition security (FNS) and food sovereignty (FSv) in CARICOM<sup>1</sup> countries and elsewhere. The intention is to make adjustments to, and integrate judiciously the salient

aspects of the FSv and FNS<sup>2</sup> approaches, into a new and unifying framework for advancing CARICOM’s food and nutrition security and sovereignty agenda. We refer to this framework as the “Food and Nutrition Security and Sovereignty” approach. Several reasons motivate this new conceptualization.

- (a) First, the conceptual framework will provide the lens for examining the state of food and nutrition security and sovereignty in any country from a unified FNS and FSv perspective. These approaches are considered non-antagonistic and non-conflictive to each other [1].
- (b) Second, the framework places high priority on

<sup>1</sup>CARICOM is the 15 member regional trading-block of Caribbean Common Market (CARICOM) countries, now graduated to Caribbean Single Market and Economy (CSME), in the Caribbean: Antigua & Barbuda (ANT), Barbados (BAR), The Bahamas (BAH), Belize (BEL), Dominica (DOM), Grenada (GRE), Guyana (GUY), Haiti (HAI), Jamaica (JAM), St. Kitts and Nevis (SKN), St. Lucia (SLU), Montserrat (MONT), St. Vincent & the Grenadines (SVG), Suriname (SUR), and Trinidad & Tobago (TRT). Because of data limitation, Montserrat is not covered in this paper.

<sup>2</sup>In this paper, we refer to the “FNS approach” as the conceptual and policy framework, promoted by the Food and Agriculture Organization (FAO), and other international organizations, and embraced by CARICOMs regional institutions and national governments. This approach has dominated and guided food and nutrition security analyses and programmatic actions in the region over the past two decades.

nutrition security [2]<sup>3</sup>, in light of policy failures to gain traction against the increasing prevalence of chronic non-communicable diseases (NCDs), and their co-morbidities, in the region. Since the 1970s, NCDs, (hypertension, diabetes, stroke, heart diseases, and some forms of cancers), have emerged as the main causes of death and mortality in CARICOM countries. These nutrition-related chronic diseases, and their main risk factors, viz., overweight and obesity, are caused by unhealthy diets, linked mainly to imported foods that are calorie-dense, high in fats, oils, sweeteners, sodium, and low in fiber. Increasingly, these diseases impose significant burdens to household and national budgets. This new framework will address this food-nutrition-health link with the urgency that it deserves.

- (c) Third, despite making some progress on FNS over the past two decades, countries in the region continue to face several food and nutrition security challenges [3,4,5,6,7]. These challenges can be attributed, *inter alia*, [3], to the dominant conceptual framework that guided FNS programmatic actions in the region over the past two decades, which was silent on, and/or did not give priority to several critical aspects of Caribbean food systems. In this regard, the insights from the FSv approach can provide the countervailing positions and critique to the mis-steps and omissions of the FNS approach that has dominated the FNS policy space in CARICOM countries;
- (d) Fourth, several authors have observed the need for more explicit ways of addressing human empowerment, recognition of rights, and the reinforcement of community capacities to make progress in achieving FSN outcomes [8,9]. Even the proponents of the FNS approach have now conceded that there were significant gaps and omissions along these lines in their conceptualization of FNS. In response, several critical elements are being proposed for addition to the FNS approach [10,11];
- (e) These proposed additions have been central to FSv's position about food, empowerment, and the democratization of food systems from its outset. However, proponents of the FNS approach, the political leadership of CARICOM countries, and regional agencies and international institutions have yet to acknowledge the FSv approach, even though the latter's *raison d'être* is to support livelihoods and advance the development agenda of the rural population, currently averaging in excess of 50 percent of the total population in the region [12]. Therefore, the proposed changes to the FNS approach bring it closer to the FSv approach, and should be a good catalyst for integrating these two approaches into a unifying conceptual framework;
- (f) Finally, like government and the private sector, civil society organizations (CSOs) have a key role

to play in the equitable functioning of food systems. These organizations encompass academia, professional organizations, and advocacy groups, among others. Issues in food sovereignty such as "defending the right to safe, nutritious and culturally appropriate food", "local and family production" "empowerment of the most vulnerable" can best be championed by CSOs.

## 2. Materials and Methods

The paper draws heavily from the recent literature on the FNS and FSv approaches, countries' FNS and sovereignty experiences, and over two decades of the authors' <sup>4</sup> experience working on FNS, poverty and vulnerability issues in the Caribbean countries. Three main data sources were used, namely, The World Bank [12], the International Monetary Fund [13], and the Food and Agriculture Organization FAOSTAT [14]. Additionally, national official statistics were used when discussing country-specific issues. The approach taken in this paper is to first interrogate the FNS and FSv concepts, with the aim of identifying the core elements at their intersection as well as the issues on which they diverge. Second, we develop an Integrated Rights-based Food Systems Framework, which is underpinned by the Right to Food and integrates both the FNS and FSv approaches. The framework is also used to articulate key criteria for sustainable food systems. Third, we develop a policy framework for advancing the food and nutrition security and sovereignty agenda in the region and elsewhere. Within this framework we accord priority to several key policy areas that were omitted or not given sufficient priority in FNS policies and programmatic actions over the past two decades. In this regard, we place a premium on nutrition, the Right to Food, Governance for FNS, empowerment of small and medium scale food producers, management of food trade, maintenance of agro-ecological integrity, and the sustainability of food systems.

### 2.1. Literature Review

#### 2.1.1. The FNS Approach

The FNS approach adopted the 1996 World Food Summit (WFS) definition of FNS <sup>5</sup> [15], which is operationalized through four dimensions <sup>6</sup>, viz., food availability, access, utilization, and the stability of these three components. While retaining the 1996 WFS definition, proponents of this approach have recently

<sup>3</sup>Nutrition security means all people have consistent and equitable access to healthy, safe, and affordable foods that are essential to optimal health and well-being.

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<sup>5</sup> Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life [15].

<sup>6</sup> In both the FNS and FSv literature the dimensions of food security are sometimes referred to as "pillars". The latter may connote separate, silo-like, elements of equal weight, while dimensions (the preferred concept used in this study), accommodate more complex interactions between and among them, and allow for differential emphasis of importance in different situations [16].

proposed adding *sustainability* and *agency* to the existing four dimensions, and putting the “right to food” more explicitly and centrally in their conceptualization of FNS [10]. *Sustainability* refers to the long-term ability of food systems to meet current food security and nutrition requirements without compromising food security and nutrition of future generations [10]. This dimension of FNS promotes food system practices that respect and protect the long-term agro-ecological and socio-economic systems required for providing food and nutrition security [17]. *Agency* refers to the empowerment of individuals or groups, with the capacity and independence to make choices about what they eat, the foods they produce, how that food is produced, processed, and distributed, and to engage in policy processes that shape food systems [10]. This concept is rooted in philosophical discussions about freedom and well-being [18], and is linked to access to food, which has two critical dimensions, viz., asset-based agency, currently emphasized under access as the second FSN dimension, and institution-based agency, essentially concerned with where powers reside, and their transfer when necessary to increase empowerment [19].

### 2.1.2. The Food Sovereignty Approach

FSv is a dynamic concept in constant evolution. Since it was first proposed, it has evolved through intense interrogations and refinements, and spawned a core body of literature, several conferences, fora and declarations [20, 21]. At the 1996 WFS meeting, the peasant movement, La Via Campesina<sup>7</sup> [22,23], defined food sovereignty, which was refined by the Declaration at Nyeleni [24], to mean the right of peoples and nations to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system. The Declaration also proposed six pillars/dimensions of FSv, viz.: Focuses on people; Values food producers; Localizes food systems; Puts control locally; Builds knowledge and skills; and Works with nature [23,24]. As a way of operationalizing these dimensions, the Via Campesina forum in Havana, Cuba, agreed on the following five main action areas or policy proposals widely discussed within the FSv approach [20]:

- (i) *Access to resources*, by promoting and supporting small and medium-size producers to have access to, and control of resources;
- (ii) *Production model*, that is sustainable, diversified, fosters local and family production, and based on local and traditional knowledge;
- (iii) *Transformation and commercialization*—localizes food systems and protects domestic market from the dumping of subsidized agricultural surpluses from other countries;
- (iv) *Food consumption and right to food*—FSv defends the right of citizens to safe, nutritious and culturally appropriate food, which should be produced by local producers with sustainable agroecological techniques; and
- (v) *Agricultural policies and CSO*—FSv seeks to

guarantee the participation of food producers and consumers in public policy decision related to the agri-food system. This requires strong CSOs and food producer’s organizations, with the right to have rights.

### 2.1.3. Similarities and Differences Between FNS and FSv Approaches

While the FNS and FSv approaches are based on independent conceptualizations, they share several distinct similarities, but also diverge on a number of issues (Table 1). However, on closely analysis, the differences are more nuanced than antagonistic or conflictive to each other, and therefore can be accommodated in policy actions by countries.

**Table 1. Similarities and differences between the FNS and FSv approaches**

Areas of Agreement	FNS	FSv
Increase food production and productivity to meet future demand	✓	✓
Food access is a central problem	✓	✓
Need for redistributive public policies	✓	✓
Food and nutrition are intrinsically linked	✓	✓
Social protection required during temporary crises	✓	✓
Right to Food	✓	✓
Existence of vulnerable livelihoods and need to build their resilience	✓	✓
Areas of Divergence	FNS	FSv
Power concentrations and relations in the food chain, international trade, ownership in land, access to information, etc.	Neutral on power relations	Acknowledges that unequal power relations exist in all aspects of FNS and lobbies against them
Sustainability of food systems	Short-run (Stability pillar)	Promotes sustainability through sound agro-ecological principles
Food production model	Multiple models	Favors SMS food producers
Food trade	Trade liberalization, self-reliance	Managed food trade, greater focus on domestic food production
Agricultural technology	Industrial agriculture	Non-industrial

Source: [1,21,25,26]

From the perspective of the FNS approach, the differences are driven mainly by United Nations Organizations such as the FAO, and the World Bank, which by definition, must be neutral to power relations, and adhere to their respective mandates [1,25]. From the FSv point of view, the differences are rooted in a theory of change [21], that places a premium on certain principles (e.g., acknowledging the existence of asymmetric power relations in food and nutrition security relationships, maintaining agro-ecological integrity, managed trade, etc.), that must be integral in its approach to advance the agenda of small and medium scale food producers. Beyond this, however, the FSv approach has, over the years, become more tolerant to several hardline positions it maintained at one time or another [23,25].

<sup>7</sup>La Via Campesina is a transnational movement that represents small and medium-scale food producers. It promotes food sovereignty as an alternative model for agriculture based on ethics and values in which culture and social justice ensure a future without hunger [23].

### 3. Results

#### 3.1. The Integrated Food and Nutrition Security and Sovereignty Approach with in Food Systems

The analysis of the state of food and nutrition security and food sovereignty in any country, cannot be conducted narrowly in terms of food production trends, income, employment, and other indicators aligned to the two approaches. Instead, the analysis must be conducted within the context of the entire food system. Food systems encompass the entire range of activities involved in the production, processing, marketing, consumption and disposal of goods that originate from agriculture, forestry or fisheries, including the inputs needed and the outputs generated at each of these steps [27]. Food systems interact with, and are driven by environmental and socio-economic variability, biodiversity, seasonality, etc. [28]. Environmental factors include land cover, soils/nutrients, climate, and involve the people and institutions that initiate or inhibit change in the system as well as the sociopolitical, economic and technological environment in which these activities take place. Food system activities and outcomes also provide important feedback to environmental and socioeconomic drivers. The food system must be sustainable, with attention given to agro-ecological integrity, and how it contributes to human development, food and nutrition security, and sustainable livelihoods [27,28].

Figure 1 depicts these and other inter-relationships that are key to food system outcomes. The conceptualization integrates the core aspects of the FNS and FSv approaches discussed earlier, and indicates pathways and inter-relationships between and among variables that are considered critical in advancing food and nutrition security and sovereignty. This framework is labeled a “Rights-Based Integrated Food System Framework”, because: (a) It is underpinned by, and elevates the Right to Food to a more prominent position; (b) It acknowledges the entire food systems; and (c) It integrates both the FNS

and FSv approaches in a single conceptual framework.

The integration of the FNS and FSv approaches in the framework has three intended consequences. First, policy makers can now transition to the “Food and Nutrition Security and Sovereignty” approach, which accommodates the evolution of the original FNS concept, and embraces the food sovereignty approach on an equal footing as the FNS approach. Second, the framework specifies that foods that are made available to the population, both from domestic production and imports, must be nutritious and health enhancing. This requirement forces policy makers to pay greater attention to nutritional security, thereby making food availability more congruent with the Nutrition Adequacy/Utilization dimension of the FNS approach. Finally, the inclusion of FSv in the framework accords policy priority to small and medium scale food producers in terms of: (a) Access to, and control of resources; (b) Support to diversified, and sustainable farming enterprises; (c) Promoting and strengthening networks that directly link food producers with commercial and institutional consumers, and aligning food imports with domestic food production; and (d) Soliciting the participation of food producers and consumers in public policy decision-making.

#### 3.2. Towards a Rights-Based Sustainable Food System

Food systems in CARICOM countries have failed to deliver robust food and nutrition security and sovereignty outcomes for the region’s population. These countries must therefore reshape their food systems into sustainable food systems, with priority given to: (a) increasing domestic food production and productivity, in alignment with a managed food import replacement program, with particular attention given to the nutritional content of imported foods; (b) more inclusion and empowerment of small and medium scale food producers in food policy decision-making; (c) farming systems that are environmentally sustainable and resilient; and (d) delivering healthy and nutritious foods for the population.

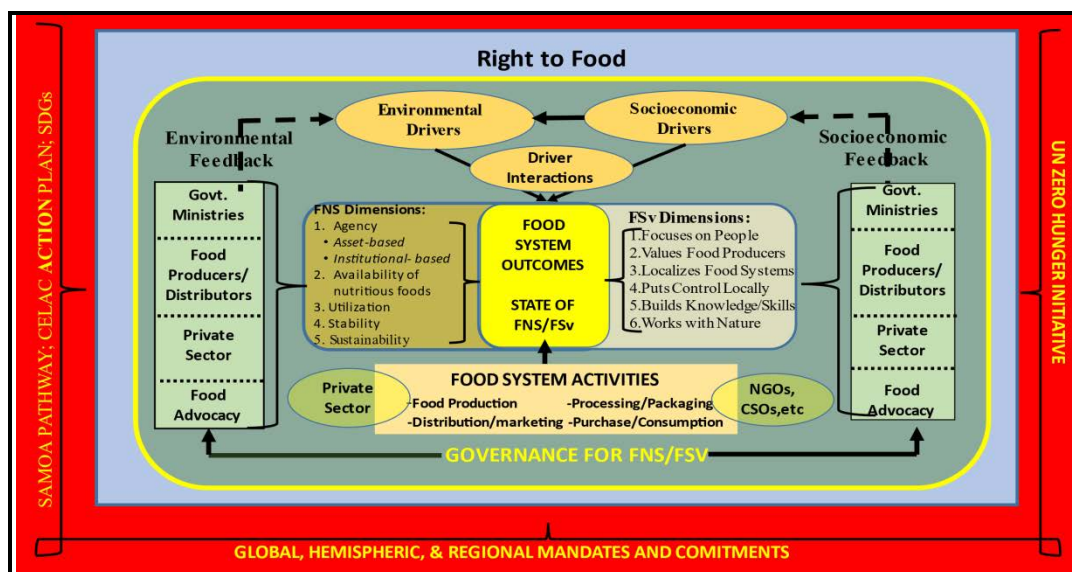
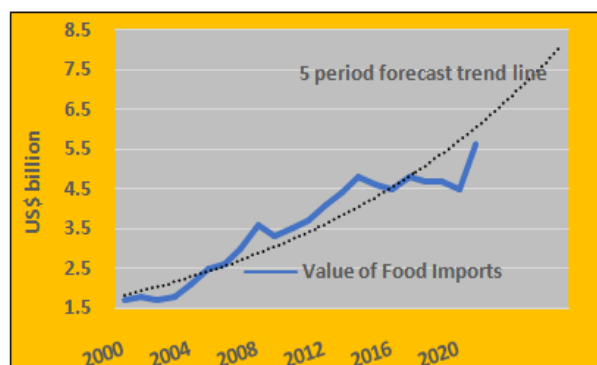


Figure 1. Rights-Based Integrated Food System Framework (Source: Authors' construct.)

### 3.2.1 Enduring FNS challenges

All CARICOM countries have functioning food systems on which rural populations, currently in excess of 50 percent of the population, depend on varying degrees, for their livelihoods. However, these food systems continue to face significant challenges, with wide-reaching consequences for the state of food and nutrition security and sovereignty [5,27,29]. These include:

- (a) *Increasing Food Bill.* CARICOM countries' total food import bill increased from US\$1.9 billion in 2000 to US\$5.6 billion in 2021, a 201 percent increase, at an average rate of 10 percent annually (Figure 2). The region's food import bill is projected to be US\$8 billion by 2026 if present trends continue. This clearly demonstrates that CARICOM countries have outsourced their responsibility to feed themselves to cheap food imports, which are a double-edged sword for the public: while it assures that food is available to meet food needs, it also compromises the nutrition security of the region's population (discussed below).

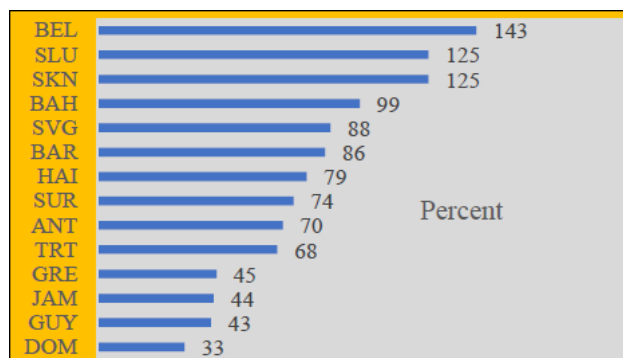


**Figure 2.** CARICOM countries' Total Food Import Bill, 2000-21 (US\$ billion) (Source: [14])

- (b) *Prevalence of NCDs.* CARICOM countries are rapidly graduating from the nutritional and epidemiological transitions observed since the early 1970s, into the advanced nutritional and epidemiological stages that national and regional health promotion and FNS policies over the past two decades were designed to prevent<sup>8</sup>. On the nutrition side, the region imports on average 70 percent of the food it consumes, of which 35-45 percent are ultra-processed foods (UPFs) [4,14]. These foods include breakfast cereals, sugary-sweetened beverages, including juices (SSBs), dairy products, food preparations and processed meat products, oils/fats, sugar, cookies, breads/pastries, etc. [30]. Diets high in UPFs are nutritionally

<sup>8</sup> The nutritional transition is expressed in a shift away from diets based on indigenous starchy root crops, grains, locally-grown fruits, vegetables, legumes, and less foods from animal origins, towards diets that are calorie-dense, consisting of more processed and ultra-processed foods (including processed beverages), more of animal origins, sugars, fats, sodium, and less fiber. This transformation in diets along with sedentary lifestyles, result in an epidemiological transition characterized by a reduction in infectious and communicable diseases and an increasing prevalence of chronic non-communicable (nutrition-related) diseases, currently the main public health problem in the region.

unbalanced, calorie-dense, higher in fats/oils, salt and sugar, and lower in fiber and vitamins. These dietary imbalances have been implicated in the increasing prevalence of NCDs and obesity [30,31,32]. On the epidemiology side, the top three causes of more than 65 percent of all deaths annually in CARICOM countries, are from four NCDs (Ischemic heart diseases, Diabetes, Stroke, and Hypertension). Moreover, there has been a significant increase in deaths from these diseases between 2009 and 2019, averaging 80 percent regionally, and ranging from a low of 33 percent in Dominica to 143 percent in Belize. (Figure 3).



**Figure 3.** Percent Change In Top Three Causes of Deaths in CARICOM Countries From Four NCDs (2009-2019) (Source: [33])

Further, for only two of these diseases, viz., diabetes and hypertension, the direct cost (doctor's visits, hospitalization and medications), estimated in 2001 was equivalent to 1.35 percent of Gross Domestic Product (GDP) in Barbados; 5.34 percent in The Bahamas; 5.87 percent in Jamaica; and 8 percent in Trinidad and Tobago [34]. These costs are expected to increase given the current high prevalence of adult NCDs in the region as well as increasing obesity among children [34].

- (c) *Stagnation in Domestic Food Production.* With very few exceptions, food production in CARICOM countries hovers around a 2014-2016 base level equilibrium, and is estimated to meet only about 20-40 percent of the countries' food needs [4,14];
- (d) *Exogeneous Impacts.* Finally, the rapid transmission of international food price increases to these countries whenever there is a shock on the world economy, suggests urgent and focused policy actions to increase domestic food production and implement a managed, nutrition-driven, food import replacement policy [35].

### 3.2.2. Sustainable Food Systems for Food and Nutrition Security and Sovereignty

The food systems in CARICOM countries do not display characteristics of sustainable food systems. A sustainable food system (SFS) achieves food and nutrition security and sovereignty for all, and does not compromise the food and nutrition security and sovereignty for future generations. This means that a SFS should satisfy a trifecta of sustainability, viz., economic (profitability prevails, especially among farming enterprises), social (benefits are widely distributed), and environmental (its environmental impacts are positive or neutral) [24,36]. Additionally, good governance for FNS must prevail [37];

and finally, a sustainable food system should support and deliver on all dimensions of food and nutrition security and sovereignty, including [10,20]:

- (a) Sufficient health-improving foods are available for all, by managing imports in tandem with targeted productivity-enhancing support to domestic food producers;
- (b) The Right to Food is promoted, so that all people have access to, and utilize/consume safe, nutritious and culturally appropriate food for healthy living;
- (c) Food producers have access to, and control of resources, and their livelihoods are supported and sustained within that system;
- (d) Empowerment (i.e., agency), is promoted for all people, including NGOs, CBOs and producers' organizations, to make choices and exercise voice in policy processes that shape food systems;
- (e) Build resilience in the system to ensure stability in the face of shocks and crises;
- (f) Ensure sustainability of all its dimensions, by promoting regenerative food system practices, utilizing local and traditional knowledge, that respect and protect the long-term agro-ecological and socio-economic systems required for providing current and future generations' food and nutrition security and sovereignty [17].

### 3.3. A Policy Framework for FNS and Sovereignty

This sub-section identifies several salient elements that are considered critical to a policy framework for advancing the food and nutrition security and sovereignty agenda in the region. The approach gives priority to policy areas that have both current and future relevance to CARICOM countries, and importantly, were omitted or not sufficiently prioritized in FNS policy prescriptions and implementation in the region over the past two decades.

#### 3.3.1. The Right to Food

The Right to Food (RTF) underpins the food system that is depicted in [Figure 1](#), and is a key guiding principle in both the FNS and FSv approaches [10,24]. Several reasons motivate the need to emphasize and elevate the RTF in policy discussions about food and nutrition security and sovereignty. First, in light of the increasing burden of NCDs in the region, the RTF reinforces the right, not just to food calories, but to healthy diets, based on all nutritional elements that a person needs to live a healthy and active life, and to the means to access them [38]. This is not a right to be fed, but rather, individuals are expected to meet their own food needs. But to do this, they must have the resources to either produce food or purchase it. Therefore, countries are expected to provide an enabling environment in which people, through their own efforts and resources produce or procure adequate food for themselves and their families. In events such as natural disasters or armed conflicts when people may not be able to feed themselves, the State must provide food directly [38].

Second, although only Guyana and Suriname have included the RTF in their Constitutions [39], all other CARICOM countries have ratified several international

treaties and conventions [40,41,42,43], which affirm the duty, obligation and responsibility of governments to, *inter alia*, protect the RTF for everyone [44]. This means that: (a) Citizens can lobby their governments to ensure they have access to food, especially during crises; and (b) Food is a human right, not just a tradable commodity, and can be used as an instrument in negotiations with international organizations (e.g., World Trade Organization (WTO), the International Monetary Fund (IMF), etc.), on trade and macroeconomic issues.

Third, regional and national food policies (e.g., CARICOM Regional Food and Nutrition Security Policy and associated Action Plan (RFNSP/AP), as well as the countries' National Food and Nutrition Security Policy and Action Plans (NFNSP/AP), can legitimately be extended to address the structural factors that place people at risk of food and nutrition insecurity, e.g., unequal income distribution, female-headed households and young people disproportionately represented among the poor; etc. Finally, the RTF can be an entry point for proponents of FSv (e.g., NGOs, CBOs, etc.), to lobby on behalf of small and medium scale food producers.

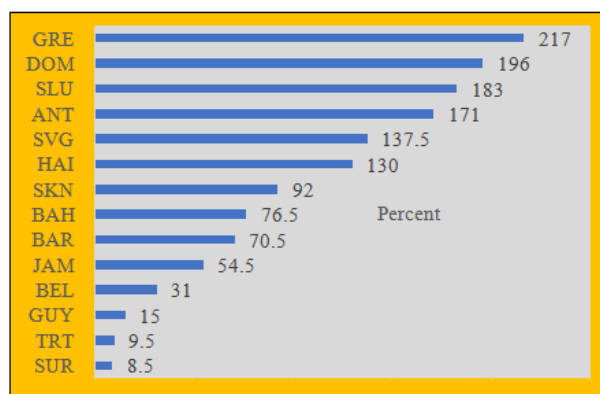
#### 3.3.2. Governance for Food and Nutrition Security

[Figure 1](#) and previous studies [37,45,46], highlight the crucial role of governance in influencing food systems and a country's food and nutrition security and sovereignty. Governance for FNS operates across three levels: political, institutional, and policy. At the political level, good governance entails the efficient delivery of FNS as a fundamental public good that citizens can reasonably expect from a democratic state. At the institutional level, good governance necessitates the establishment of institutions that organize, structure, coordinate, and ensure the implementation of food and nutrition security policies. At the policy level, good governance involves the development of legislation, strategies, policies, and action plans for food and nutrition security. It also includes the implementation of monitoring and evaluation plans to maximize impact, prioritize resource utilization, and enhance decision-making processes [46].

The key actors engaged in FNS include governments and intergovernmental organizations, civil society, such as social movements and food advocacy groups, and private sector actors, such as businesses [10]. Within this context, the Right to Food (i.e., the protection of agency) must be elevated as a priority [10]. FNS security governance and the Right to Food are deeply interconnected, with one relying on the other for effective implementation. The realization of the right to food is most likely to occur when there is good governance in place [37,46].

#### 3.3.3. Strategic Approach to Managing Food Imports and Enhancing Nutrition Security

The food import bill in CARICOM countries has increased by over 200 percent over the past two decades (see [Figure 2](#)). Moreover, the value of food imports as a proportion of the value of total merchandise exports, an indicator of the adequacy of foreign exchange earned to pay for food imports, is unsustainable for ten countries, ranging on average from 54.5 percent (Jamaica), to 217 percent (Grenada), annually, over the 2016-20 period ([Figure 4](#)).



**Figure 4.** CARICOM Countries' Value of Food Imports in Total Merchandise Exports (Aver. 2016-20). (Source: [14])

Following the COVID-19 pandemic-induced food supply chain disruptions, CARICOM countries launched “Vision 25 by 2025”, in early 2022, a program aimed at increasing domestic food production to reduce regional food imports by 25 percent by year 2025 [48]. The initiative has two main components, viz, (i) Meat production (poultry, beef, sheep, goats, and fish); and (ii) Fruits and vegetables production, including feed inputs (corn and soya beans). It embraces both the public and private sectors, and is being driven by the CARICOM Private Sector Organization (CPSO), an Associate Unit of CARICOM [49]. The CPSO's membership is drawn from the region's commercial private sector, and consists of CARICOM's major food importers, distributors, intermediate input suppliers, and manufacturers. This engagement of commercial private sector is appealing, and in contrast to the purely public sector led approaches in the past.

“Vision 25 by 2025” is preceded by at least six similar regional food import replacement programs over the past 45 years [48]:

- (i) The 1975 Regional Food Plan (RFP);
- (ii) The 1983 Regional Food and Nutrition Security Strategy (RFNS);
- (iii) The 1989 Caribbean Community Program for Agricultural Development (CCPAD);
- (iv) The 1996 Regional Transformation Program for Agriculture (RTPA);
- (v) The 2005 Jagdeo Initiative; and
- (vi) The 2011 Caribbean Community Agriculture Policy (CCAP), which embraces the Jagdeo Initiative and the 2011-2025 Regional Food and Nutrition Security Policy (RFNSP)

The CCAP is currently being implemented in CARICOM member countries, but with very limited success [49]. The other five programs have all faded into history, also with very little success. Several reasons have been advanced for the poor outcomes of these initiatives, including [3,49,50]: (a) Lack of funding to implement these programs; (b) Imported food is often cheaper than producing it locally; (c) Poor implementation of agricultural policies, lack of supportive government programs, and weak institutional frameworks; (d) Insufficient investments in research and development, limited access to credit, and inadequate infrastructure and extension services for food producers; (e) Failure to address demand-side factors such as affordability, food

preferences that have been cemented through years of cheap food import policies, consumers' lack of knowledge and appreciation of the impact of food on health and nutrition; etc.; and, (f) Reliance on a public sector approach and no engagement with the commercial private sector, the main food importers, distributors, and food manufacturers in the CARICOM region.

Consequently, food imports into the region have become the safety-valve and tacit default policy for closing the gap between domestic food production and domestic food demand. A multi-faceted strategic approach is required to effectively address the challenges of increasing food imports. Key elements of this approach should include, inter alia:

- (i) “Vision 25 by 2025”. This is a good place to begin, but its architects have to start now to enlarge on, and build continuity into that vision to progressively reduce food imports beyond the 25 percent of current value targeted by the program. More importantly, they must elevate nutrition security as a central thrust of the program, and aggressively mobilize and engage small and medium scale food producers as an integral part of “Vision 25 by 2025”. The main thrust of the program is to reduce the regions' food import bill. No one can deny the importance of reducing the region's increasing food import bill. But the contribution of “Vision 25 by 2025” would be limited if it does not elevate nutrition security as a priority, and instead merely seeks to replace one source of food calories with another, notwithstanding that the latter is a domestic/regional one. The two main “Vision 25 by 2025” documents [48,49] fully articulated the poultry-meat component, while the vegetable and fruits production targets are included in a log-frame, thereby supporting an optics that the priority and major thrust of the program is in the poultry-meat component. This is a particularly weak aspect of the program. It cannot be overstated, that at this juncture of CARICOM's food and nutrition security and sovereignty status, nutrition security must be a central objective and priority of every food program that is proposed domestically or regionally. The over-supply of imported health-retarding foods that is driving unbalanced diets, and the resulting increases in obesity and prevalence NCDs in the region, demand focused and deliberate action to achieve nutrition security. The CPSO confers the lead and major role on the commercial private sector for achieving the objectives of “Vision 25 by 2025”. Commercial private sector firms do come with several advantages [49]. They are profit-oriented, possess the production technology, business acumen, market intelligence, finance and investment capital, net-working, and entrepreneurial skills, all of which augur well for the food-replacement initiative. “Vision 25 by 2025” also assigns to the “other private sector”, that is, the agriculture production private sector<sup>9</sup>, several areas

<sup>9</sup>Small, medium and large scale food producers constitute the region's agriculture production private sector [48]. Ninety percent of these small and medium scale food producers operate on farms that are 10 hectares or less and occupy about 55 percent of total farm holdings, but are rarely

of this food-replacement initiative. However, this engagement is presented more as a tacit expectation or understanding that these food producers will be mobilized to contribute to “Vision 25 by 2025”, rather than a fully articulated position, the same way that the CPSO cogently outlined the role of the commercial private sector in the program<sup>10</sup>. This omission is another weak aspect of the program that the CPSO should correct as a matter of urgency. Otherwise, “Vision 25 by 2025” is going to be another lost opportunity for food producers in the region. Small and medium scale (SMS) food producers can play a key role in this initiative. They are already on the soil cultivating crops, have access to land, skill-sets and other resources, and with targeted incentives and support could contribute immensely to successful outcomes of “Vision 25 by 2025”. In particular, equal ownership of any food replacement program must be shared with SMS food producers, through immediate consultation and “buy-in” with them. They should also be incentivized with a sustained package of resources (similar to that being offered for the poultry/meat component of the program [48,49]), and supporting services, including training, marketing networks, technical assistance, and access to affordable financing. This engagement will also provide SMS food producers with opportunities to create agriculture value-added, employment, and increase revenue streams to enhance their welfare and sustain livelihoods in the rural economies of CARICOM member states. (Sub-sections 3.2.6 and 3.2.7 below elaborate on this point).

- (ii) *Regional Agriculture Investment Fund.* CARICOM and its leaders must work closely with the political leadership of Guyana, Suriname and Trinidad and Tobago to leverage these countries’ oil and gas revenue to establish an investment fund to finance the region’s food and nutrition security and sovereignty programs. Additionally, international institutions such as the FAO, PAHO/WHO and others, with extensive capacities and networks, should be engaged to mobilize funding for such a key investment fund. Well designed and intentioned food-import replacement programs in the past failed mainly because of lack of funding to implement them.
- (iii) *Intra-regional food-trade facilitation.* CARICOM’s intra-regional food trade has not met the expectations that should have resulted from region’s graduation to the Single Market and Economy (CSME), or the establishment of the Common External Tariff (CET). Intraregional food trade has grown from about 2 percent of regional GDP in the mid-1980s and has plateaued to about 4 percent of regional GDP over the past decade, with about 90 percent of the region’s exports going to third countries [50]. This reflects in part the lack of diversification, and

export structures of the regional economies, with insufficiently high variety of goods to form a basis for trade. CARICOM and its member countries must address these structural challenges, and also reduce intra-regional tariff and non-tariff trade barriers, and streamline customs procedures both at sea-ports and airports [51,52].

In the final analysis, however, unless governments’ interest and support for the food import replacement programs are sustained over the medium and longer term, these programs will not deliver the outcomes envisaged by their proponents.

### 3.3.4 Sustainable Increase in Agricultural Production and Productivity with Increased Access to Healthy Foods

There is currently a crisis in food production in CARICOM countries. On average CARICOM countries import 70 percent of the food they consume, which means that on average the region produces only 30 percent of the food it consumes [4]. Figure 5 shows the domestic food production as a proportion of total food consumption for 14 CARICOM countries. Belize and Guyana are the only two net food exporting countries in the region, each producing about 60 percent of the food they consume [4]. Nine of the countries produce less than 40 percent of the food they consume, even though these countries have functioning food systems on which their rural populations, in excess of 50 percent of the total population, derive their livelihoods, directly or indirectly. Therefore, food import replacement programs have to be programmed lock-step with sustained increase in domestic food production.

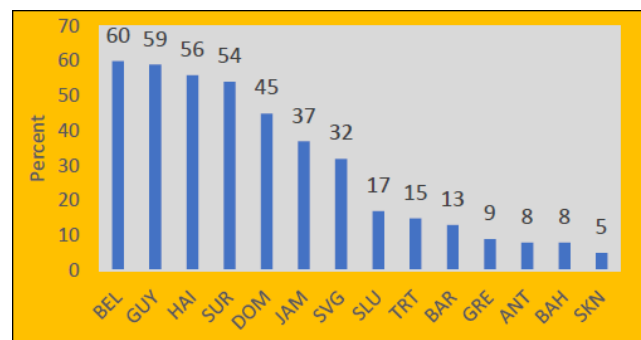


Figure 5. The proportion of Domestic Food Production in Total Food Consumption (CARICOM Countries) (Source: [4])

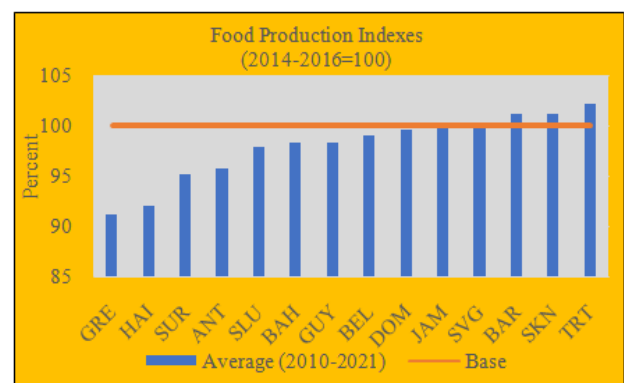


Figure 6. CARICOM Countries’ Food Production Indexes (average over 2010-2021). (Source: [14])

characterized as the private sector. The other ten percent of farms occupy 45 percent of farm lands and operate on farms in excess of 10 hectares. These farms are usually considered as private sector.

<sup>10</sup> This conclusion is based on a review of the two main documents on the program, viz., [48,49].



Moreover, food production trends for these countries do not inspire confidence about meeting domestic food needs, or reducing food imports through domestic production. Figure 6 shows food production indexes for 14 countries in CARICOM over the 2010-21 period. Over that period, the regional average annual food production index was 98 percent, or two percent below the 2014-2016 base-line level. Only three countries showed marginal increases (between one and two percent), over the base-level output, while the other countries showed stagnating food production indexes. Among the central reasons for this paralysis in domestic food production is that the region's agriculture sector is still plagued by the key binding constraints described in the Jagdeo Initiative [53]. These include:

- (i) Limited financing and inadequate investments
- (ii) Outdated and inefficient agriculture, health and food safety systems
- (iii) Inadequate research and development
- (iv) Fragmented and unorganized private sector
- (v) Inefficient land and water distribution and management systems
- (vi) Deficient and uncoordinated risk management measures, including praedial larceny
- (vii) Inadequate transportation systems, particularly for perishables
- (viii) Weak and non-integrated information and intelligence systems
- (ix) Weak marketing systems, linkages and participation in growth markets
- (x) Lack of skilled human resources.

The Jagdeo Initiative which was launched in 2005, and the other food-replacement predecessor programs, represent lost opportunities to place regional agriculture on a firm development trajectory. However, there is currently a window of opportunity to do so in "Vision 25 by 2025" (assuming it prioritizes nutrition and engages the SMS food producers, as recommended in this paper), and the Caribbean Community Agriculture Policy (CCAP). These two regional policies currently hold enormous promise for increasing agriculture production (and reducing food imports), in CARICOM member countries, with "Vision 25 by 2025" providing the catalyst and the CCAP (specifically, the Jagdeo Initiative and the RFNSP which it embraces), the relevant policy guidelines and output targets. In effect, at this juncture of the CARICOM regional movement, the way forward to enhancing regional food and nutrition security and sovereignty is to identify and optimize the synergies between these two policies. "Vision 25 by 2025", which is in implementation stage, has good momentum, especially with the generous support from the Government of Guyana [47], and has food production targets that are aligned with those of the RFNSP. However, food systems in the region are faced with many challenges, which the Jagdeo Initiative, with selective and judicious implementation can address.

Programming actions along the lines described above should be accompanied by fully funded monitoring and evaluation plans, which can act both as a management tool, and as a score-card of program's achievements and lessons learned. Additionally, these programming actions must be accompanied by a fully-funded communication program to

promote greater consumption of locally produced fruits, roots, tubers, and fresh vegetables, thereby increasing domestic demand for these products, and enhancing good health and nutrition. These policy actions can increase agricultural production, improve productivity, and enhance access to healthy foods, contributing to food and nutrition security and sovereignty, and the overall well-being of the population in the Caribbean.

### 3.3.5. Food and Nutrition Security and Sovereignty and Development Agenda 2030

All CARICOM countries are signatories to the Sustainable Development Goals (SDGs), and have, by varying degrees, integrated them into national development objectives and priorities. These SDGs were launched in January 2016 and defined the development agenda for developing countries to the year 2030 (Development Agenda 2030). While all the SDGs are important, SDG 1 (End poverty), SDG 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), and SDG 3 (Good health and well-being), are closely related to food and nutrition security and sovereignty, and to the objectives of this paper. These issues have received policy attention in the region over the past two decades.

With respect to poverty, since the late 1990s the Caribbean Development Bank has commissioned at least two Country Poverty Assessments (CPAs), in CARICOM countries<sup>11</sup>. The results of the CPAs motivated evidence-based poverty reduction programs in the countries. However, despite these programs, which were ostensibly formulated to reduce poverty, findings from the 2008-13 and 2017-19 CPAs, revealed that poverty stubbornly persists in CARICOM countries [4,36]. With respect to hunger, the 1996 World Food Summit meeting and the 2000 Millennium Development Goals (MDGs), set hunger reduction targets for all developing countries. On the target date in 2015, only three CARICOM countries (Barbados, Guyana, and St. Vincent and the Grenadines) met these hunger targets [4].

**Table 2. CARICOM Countries' End Of 2022 Progress Report On SDGs 1, 2 and 3**

Progress Indicator	SDG 1	SDG 2	SDG 3*
	No. of Countries	No. of Countries	No. of Countries
On Track towards SDGs	2	0	1
Moderately Improving	1	5	2
Stagnating	3	9	7
Decreasing	2	0	2
Trend Info. Unavailable	6	0	2
Total No. of Countries	14	14	14

Source: [54]. \*Target to reduce NCDs.

Table 2 shows the progress made at the end of 2022 by CARICOM countries on these three SDGs. For SDG 1, only two countries are on track to achieving this goal, while one is moderately improving, three are stagnating, two are decreasing, and six did not have trend information for an evaluation, (a good possibly that they are not making much progress towards SDG1). With

<sup>11</sup> The exception is Haiti where only one CPA was conducted.

respect to SDG 2, no country is on track, five countries are moderately improving, and nine are stagnating. For SDG 3, and specific to the target of reducing NCDs, only one country is on track, two are improving, and seven are stagnating.

These results show unflattering or, at best, only modest progress towards these SDGs. Therefore, these countries must work harder to achieve these three SDGs within the remaining seven-year window before expiration. In this regard, the recommended policy action is for countries to take a more proactive approach towards embracing the FNS and FSv approaches, within the food and nutrition security and sovereignty framework advanced in this paper. In particular, these approaches can contribute to achieving SDGs 1, 2 and 3 through their focus on poverty reduction, sustainable agriculture, and improving food availability and access. While the FNS approach emphasizes technical assistance and market-oriented strategies, the food sovereignty approach emphasizes community empowerment and local control over food systems.

### 3.3.6. Engaging and Supporting Small/Medium Scale Food Producers

The deliberate engagement with, and sustained support for small and medium scale (SMS) food producers must be integral to policies to increase domestic food production or reduce food imports. CARICOM countries' agriculture is dominated by small and medium scale food producers. More than 80 percent of farms are smaller than five hectares though most are under two hectares [55]. Small farms less than two hectares occupy 55 percent of the cultivated areas [56]. Engagement with these food producers will acknowledge their role as key stakeholders in the food system, solicit their perspectives, knowledge, and needs, which are then incorporated into decision-making processes. In turn, this will guide critical public policy support to these SMS food producers. Key aspects of meaningful engagement with, and support for SMS food producers include:

- (i) These SMS food producers should be included and represented at local, regional, and national levels, to ensure that their perspectives are considered in decision-making processes.
- (ii) Support small/medium-scale food producers in advocating for policies and regulations that address their specific needs, protect their interests, and create an enabling environment for their sustainable development. This can involve collaboration with farmer organizations, civil society groups, and government agencies to raise awareness, influence policy decisions, and promote supportive measures.
- (iii) Financial support and access to resources can help SMS food producers to invest in productivity-enhancing technologies, farm inputs, infrastructure, and market development. Capacity building and training can enhance skills in areas such as sustainable farming practices, post-harvest management, value addition, marketing, and business management. Market linkages and value chain integration will provide SMS food producers with access to markets, support farmer cooperatives, contract farming arrangements, and

provide technical assistance to improve product quality and meet market requirements.

- (iv) Access to information and knowledge, including fostering networks and platforms, will facilitate knowledge sharing and empower SMS food producers to make informed decisions, adopt innovative approaches, and improve their productivity and resilience.

### 3.3.7. Building Resilience and Sustainable Livelihoods in Rural Economies

In excess of 50% of CARICOM countries' population live in rural economies [12]. Higher levels of poverty, unemployment, and vulnerability to food and nutrition insecurity are represented in these rural communities [3,28]. Building resilience and sustainable livelihoods in these rural economies requires a multi-faceted approach that addresses various dimensions of development. A needs assessment [35], recently conducted among small and medium scale (SMS) food producers in five CARICOM countries (viz., Barbados, Grenada, Guyana, Jamaica, and St. Vincent and the Grenadines), revealed that 91 percent of the farmers would like to expand their operations. However, they are constrained by several factors, including limited savings, lack of essential tools, access to loans/credits, water, markets, etc. (Figure 7).

The main needs of these SMS food producers (Figure 8), are for training (e.g., risk management, building resilience against shocks, etc.), resources (e.g., small farming equipment, investment grants, assistance with land preparation, access seeds and farm inputs, etc.), marketing (e.g., establish network with buyers), and farm management skills training (e.g., how to manage a farm to be profitable, control pests, apply fertilizer, etc.).

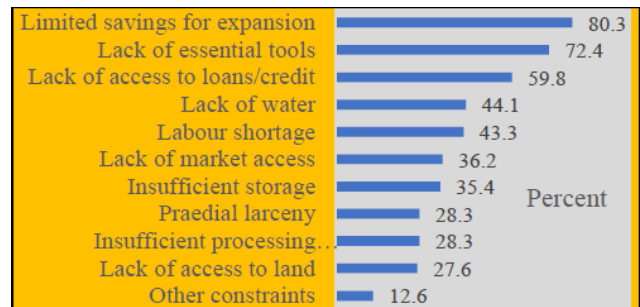


Figure 7. Constraints to Expanding Farming Enterprises (Source: [35])

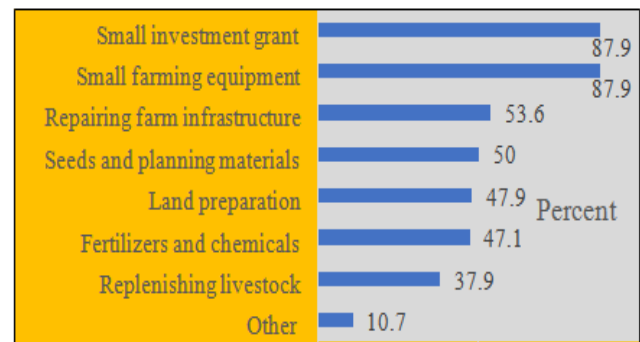


Figure 8. Priority Needs of SMS Food Producers (Source: [35])

Some policy actions to build sustainable livelihoods in, and activate rural economies include:

- Promote entrepreneurship and the development of small-scale enterprises in agro-processing, eco-tourism, renewable energy, crafts, and services. This reduces dependence on a single economic activity, creates employment opportunities, and enhances income generation.
- Facilitate access to both domestic and external markets.
- Facilitate access to finance and business support services for rural entrepreneurs and small-scale enterprises, such as microfinance programs, financial literacy training, and incubation centers to assist entrepreneurs in developing viable business models.
- Invest in rural infrastructure development to support economic activities and improve digital connectivity.

## 4. Discussion

This paper has identified several challenges to food and nutrition security and sovereignty in CARICOM countries, and presented four lines of action to address them. These include: (i) A new framework to replace the FNS approach that has dominated FNS policy decisions in the region over the past two decades; (ii) Elevate the issue of nutrition security as a policy priority, given policy failures to gain traction against the increasing prevalence of NCDs and their co-morbidities in CARICOM countries; (iii) Reduce the region's food import bill through a food-replacement program with nutrition security and engagement of SMS food producers as its major thrusts; and, (iv) A policy framework that prioritizes several key policy areas. These areas were omitted or received only scant policy support over the past two decades for advancing the region's food and nutrition security and sovereignty agenda.

The Food and Nutrition Security and Sovereignty approach proposed in this paper is a significant departure from the FNS security framework that dominated the food policy space in the CARICOM region over the past two decades.

First, the new approach adds the stipulation to the Food Availability dimension of the FNS approach, that the foods made available to consumers should be nutritious, with the intention of: (i) promoting nutrition security as a policy priority in any existing or future food-related policies or programs in the region; and, (ii) deterring the region-wide, free-flow of health-retarding imported foods, that are driving the increasing prevalence of overweight, obesity and non-communicable diseases in CARICOM countries.

Second, the new framework includes *agency* and *sustainability* to reflect the evolution of the FNS approach and to acknowledge these two additional dimensions as bed-rock principles in the FSv approach [24]. Specifically, in addition to asset-based access to food, agency includes institution-based access, which explicitly seeks to empower individuals and groups with the capacity and independence to take actions that help improve their own wellbeing, and to engage in society to shape food and nutrition security policies. This issue was highlighted at several points in this paper, especially in sub-sections

3.2.4 and 3.2.6. Similarly, *sustainability* goes beyond the FNS stability dimension that is concerned mainly with short-term disruptions that undermine food and nutrition security. Instead, sustainability is more aligned with the FSv approach that places a premium on food system practices that respect and protect the inter-temporal and inter-generational regenerative capacity of agro-ecological systems [9,16]. This is especially relevant in light of growing trends in climate change and the degradation of natural resources. Moreover, recent studies in the Caribbean highlight the inequities that the COVID pandemic exposed about FNS at the household level [57,58]. Therefore, framing food systems through the lens of agency and sustainability expands policy and programmatic actions to address underlying unacceptable food system practices and structural inequities that drive food insecurity by placing power in the hands of those most affected [10].

Third, the new approach brings greater focus on small and medium scale food producers. The FNS approach treated food availability in terms of *food reliance*, i.e., short-falls in domestic food production to meet national food demand were met by food imports paid for by export earnings. For countries in the region with functional food systems and relatively large rural populations, failure to progressively reduce food imports in tandem with increases in domestic food production will continue to negatively impact rural livelihoods. While the addition of agency to the FNS approach seeks to empower food producers, the approach embraces liberalized trade regimes, and does not specifically address increasing food imports in a conscious and deliberate manner that the issue deserves. The FSv approach, which is embraced by the Food and Nutrition Security and Sovereignty approach developed in this paper, is better placed to effectively address this issue. This approach localizes food systems and protects domestic markets from the dumping of subsidized agricultural surpluses from other countries.

Finally, the new approach advanced in this paper, integrates both the Food Sovereignty (FSv) and the Food and Nutrition Security (FNS) approaches into a single, unifying framework. The intention is that these two approaches can complement each other as countries seek to achieve robust food and nutrition security and sovereignty outcomes. Adding sustainability and agency to the FNS approach brings it closer to the FSv approach. International institutions may still cling to the FNS approach for reasons given earlier, but the inclusion of the FSv approach to the framework explicitly and more boldly focuses on small and medium scale food producers, and addresses food imports more directly. As the architects of "Vision 25 by 2025" lamented [49], the plans of past initiatives to address food import replacement and agriculture development did not originate with the primary agricultural sector actors and led to a lack of ownership and hence, limited uptake of the Community's plans by regional domestic agriculture producers.

## 5. Conclusions

This paper has developed a new conceptual framework for advancing food and nutrition security and sovereignty in CARICOM countries and elsewhere. The framework

has two components, viz., an analytical component and a food systems component. The former serves as the lens for conducting analyses of food and nutrition security and sovereignty. Through this lens indicators of both FNS and FSv can be analyzed to gauge the state food and nutrition security and sovereignty at the household or national levels. Additionally, this lens can guide the analysis of national and regional programs and policies to address food and nutrition security and sovereignty, including but not limited to food import replacement, vulnerability to food insecurity of marginalized groups, the governance of food and nutrition security and sovereignty, etc.

The food systems component highlighted the critical and salient features of sustainable food systems, and the imperative to reshape the region's food systems to support and deliver on all dimensions of food and nutrition security and sovereignty. In this regard, the policy framework developed in the paper identified several priority policy areas for advancing the food and nutrition security and sovereignty agenda in the region. These policy areas have both current and future relevance, and importantly, were omitted or not sufficiently prioritized in FNS policy prescriptions and implementation in the region over the past two decades.

The paper also acknowledged key identifiable binding constraints to agricultural development which are integral to the explanation for compromised FNS outcomes in the region. Finally, the paper proposed that governments in the region should embrace the FSv approach with the same enthusiasm they have done with the FNS approach over the past two decades.

## References

- [1] Gordillo, G., and Jeronimo, O. (2013). Food Security and Sovereignty (Base Document for Discussion). FAO. Rome.
- [2] Food and Agricultural Organization (FAO). 2012. The state of food insecurity in the world: economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Rome, Italy.
- [3] Ballayram, T., Beverly Lawrence, Fitzroy Henry (2015). "Food Security and Health in the Caribbean-Imperatives for Policy Implementation". *Journal of Food Security*. Vol. 3, No. 6, 2015, pp 137-144. (Available online at <http://pubs.sciepub.com/jfs/3/6/1>).
- [4] FAO. (2015). Overview of Food Insecurity in CARICOM Caribbean. Meeting the 2015 Hunger Targets: Taking stock of uneven progress. FAO Subregional Office for the Caribbean and Latin America. Bridgetown. Barbados.
- [5] Ballayram, T. (2017). "The Promises and Challenges of the Sustainable Development Goals for CARICOM Caribbean Countries." *Journal of Food Security*. Vol. 5, No. 1, pp 1-8. (Available online at <http://pubs.sciepub.com/jfs/5/1/1>).
- [6] CARICOM Secretariat (2020). Caribbean COVID-19 Food Security & Livelihoods Impact Survey. Regional Summary Report. Georgetown, Guyana.
- [7] CARICOM Secretariat (2022). Caribbean Food Security & Livelihoods Survey Impacts of COVID-19 and the Cost-of-Living Crisis. Regional Summary Report. Georgetown, Guyana.
- [8] Rocha, C., and Liberato, R. (2013). Food sovereignty for cultural food security; The case of an indigenous community in BRAZIL. *Food Cult. Soc.* 16, 589–602.
- [9] Smith, L., and Haddad, L. (2015). Reducing child undernutrition: past drivers and priorities for the Post-MDG Era. *World Dev.* 68, 180–204.
- [10] High Level Panel of Experts (HLPE) (2020). Food security and nutrition: building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.
- [11] Clapp, J., Moseley, W.G., Burlingame, B., Termine, P. (2021). Viewpoint: The case for a six-dimensional food security framework. *Food Policy* 106 (2022) 102164.
- [12] World Bank (2023). [www.worldbank.org](http://www.worldbank.org) (Assessed January, 2023).
- [13] International Monetary Fund ([www.imf.org/wef](http://www.imf.org/wef)) (Assessed January, 2023).
- [14] Food and Agriculture Organization (2023). ([www.fao.org/faostat](http://www.fao.org/faostat)). (Assessed January, 2023).
- [15] Food and Agriculture Organization (FAO) (1996). Rome Declaration on World Food Security and World Food Summit Plan of Action. Rome. (<http://www.fao.org/w3613e/w3613e00.htm>).
- [16] Berry, E.M., Dernini, S., Burlingame, B., Meybeck A. & Conforti, P. (2015). "Food security and sustainability: can one exist without the other?" *Public Health Nutrition*, 18(13): 2293–2302.
- [17] El Bilali, H., Callenius, C., Strassner, C. and Probst, L. (2018). Food and nutrition security and sustainability transitions in food systems. *Food and Energy Security*, 8(2): 1–20.
- [18] Sen, A. (1985). "Well-being, agency and freedom: The Dewey lectures 1984." *The Journal of Philosophy*, 82(4): 169-221.
- [19] Chomba, S., Nathan, I., Minang, P., and Sinclair, F. (2015). Illusions of empowerment? Questioning policy and practice of community forestry in Kenya. *Ecol. Soc.* 20: 3. (Open Access).
- [20] Binimelis, R., Guadalupe, M., Rivera-Ferre, Tendero, G., Badal, M., Heras, M., Gamboa, G., & Ortega, M. (2014) Adapting established instruments to build useful food sovereignty indicators, Development Studies Research. An Open Access Journal, 1: 1, 324-339.
- [21] Sampson, D., Cely-Santos, M., Gemmill-Herren, B., et al. (2021). Food Sovereignty and Rights-Based Approaches Strengthen Food Security and Nutrition Across the Globe: A Systematic Review. *Frontier for Sustainable Food Systems*, 5: 686492. (Open Access).
- [22] La Via Campesina (1996). The Right to Produce and Access to Land. *Food Sovereignty: A Future without Hunger*. Rome. <https://viacampesina.org/en/wp-content/uploads/sites/2/2021/11/1996-Rom-en.pdf>.
- [23] Peña, K. (2013). Institutionalizing Food Sovereignty in Ecuador. Food Sovereignty: A Critical Dialogue. Yale International Conference, # 15, September 14-15, 2013.
- [24] The Nyéléni 2007 International Steering Committee (Nyéléni, 2007). Nyéléni 2007-Forum for Food Sovereignty. Mali. [https://nyeleni.org/DOWNLOADS/Nyeleni\\_EN.pdf](https://nyeleni.org/DOWNLOADS/Nyeleni_EN.pdf).
- [25] Clapp, J. (2015). Food Security and International Trade: Unpacking disputed narratives. FAO. Rome.
- [26] Peter, M. (2017). Food Sovereignty an Alternative Framework to the Narrower Concept of Food Security. Royal Agriculture University. Gloucestershire. United Kingdom. UK.
- [27] Food and Agriculture Organization (FAO) (2013). The State of Food and Agriculture. Rome.
- [28] Ingram, J., Ericksen, P., and Liverman, D. (2010). Food Security and Global Environmental Change. Earthscan. London.
- [29] Ballayram, T. and Henry, F. (2022). Vulnerability to Food and Nutrition Insecurity in the Caribbean. *World Journal of Advanced Research and Reviews*, 2022, 16(03), 568–576.
- [30] Monteiro, C.A., Cannon, G., Lawrence, M., Costa Louzada, M.L. and Pereira Machado, P. (2019). Ultra-processed foods, diet quality, and health using the NOVA classification system. Rome, FAO.
- [31] Harris, R., Rose, A., Soares-Wynter, S., and Unwin, N (2021). Ultra-processed food consumption in Barbados: evidence from a nationally representative, cross-sectional study. *Journal of Nutritional Science*, vol. 10, e29, 1-9.
- [32] James, W., and N. Rigby (2007). The Challenge of Obesity Epidemic for Science and Sociology. Oxford University Press. London.
- [33] The Institute for Health Metrics and Evaluation (2023). Global Burden of Diseases 2019. <https://ghdx.healthdata.org/gbd>.
- [34] Economic Commission for Latin America and the Caribbean (ECLAC) (2012). Non-communicable Diseases and their Impact on Sustainable Development. FOCUS. Magazine of Caribbean Development and Cooperation Committee (CDCC). Sub-regional Headquarters for the Caribbean. Port of Spain, Trinidad and Tobago.
- [35] Caribbean Policy Development Center (CPDC) (2023). A Sustainable Food Systems and Policy Framework for Small and Medium Scale Food Producers in Selected CARIFORUM Countries. Caribbean Policy Development Center. Barbados.
- [36] FAO (2018). Sustainable food systems Concept and framework. Rome.
- [37] Ballayram, T., and Henry, F. (2023), "Analysis of Governance for

- Food and Nutrition Security in Three Caribbean Countries.” *Journal of Food Security*, vol. 11, no. 1 (2023): 1-7.
- [38] United Nation (2010). The Right to Adequate Food. Fact Sheet # 34. Geneva.
- [39] FAO (2023). <https://www.fao.org/right-to-food-around-the-globe/countries/en/>.
- [40] United Nations General Assembly (UNGA) (1948). Universal Declaration of Human Rights. Resolution adopted by the General Assembly on 10 December 1948, General Assembly resolution 217 A. Paris. (also available at <https://www.un.org/en/universal-declaration-human-rights/>).
- [41] UN (United Nations) (1966). International Covenant on Economic, Social and Cultural Rights. Rome.
- [42] UN (United Nations) (1996). Rome Declaration on World Food Security. Rome. (also available at <http://www.fao.org/3/w3613e/w3613e00.htm>).
- [43] FAO. (2004). Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security. FAO. Rome.
- [44] FAO (2013). Right to Food in the CARICOM Region. *An Assessment Report*. FAO. Rome.
- [45] World Bank (2017). Governance and Law. World Development Report. <https://www.worldbank.org/en/publication/wdr2017>. Online. Accessed January, 2023.
- [46] FAO (2015). Governance for Food and Nutrition Security in the Caribbean. Issue Brief # 17. FAO Subregional Office for the Caribbean. Barbados.
- [47] CARICOM Secretariat (2022a). Regional Food Production and Productivity Towards a Sustainable Import Replacement Programme: 25% by 2025 Reduction in the Regional Food Bill. CARICOM Secretariat. Georgetown. Guyana.
- [48] CARICOM Secretariat (2022b). “Twenty-five by 2025”: Reducing CARICOM’s Agri-Food Imports: Opportunities for CPSO Participation ANNEXES – BACKGROUND BRIEFS. CARICOM Secretariat. Georgetown. Guyana.
- [49] FAO & Caribbean Development Bank (CDB) (2019). Study on the State of Agriculture in the Caribbean. Rome.
- [50] Al Hassan, A., Burfisher, M., Chow, J. (2020). Is the Whole Greater than the Sum of its Parts? Strengthening Caribbean Regional Integration. IMF Working Paper WP/20/8. IMF. Washington.
- [51] CARICOM (2018). Facilitating Intra-Regional Agri-Food Trade. Technical Brief #1/2018. CARICOM Secretariat. Georgetown. Guyana.
- [52] Private Sector Commission (2007). The Jagdeo Initiative. Technical Information Bulletin No. 8 October 2007. Georgetown. Guyana.
- [53] Sustainable Development Report (2023). <https://dashboards.sdgindex.org/rankings> (Assessed January, 2023).
- [54] Lowder, S.K., Skoet, J. and Raney, T. (2016). The Number, Size, and Distribution of Farms, Smallholder Farms, and Family Farms Worldwide. *World Development*, 87: 16–29.
- [55] FAO (2012). Profile of small-scale farming in the Caribbean. Workshop proceedings. (Available at [www.fao.org/3/a-au343e.pdf](http://www.fao.org/3/a-au343e.pdf)).
- [56] Henry F., Campbell A., Reid L., Ford K., and Balachandar, B. (2022) Beyond Covid-19: Impact of Inflation on Jamaican Households. *J Community Med Public Health* 6: 273.
- [57] Reid, L., Balachandar, B., Campbell, A, Ford, K., and Henry F. (2022) Post-Covid Household Food Insecurity in Jamaica. *Nutrition Research and Food Science Journal*. Vol 5. #3 1-4.



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