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NATIONAL ASSESSMENT OF THE SOLOMON ISLANDS FOOD SYSTEM



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

NATIONAL ASSESSMENT OF THE SOLOMON ISLANDS FOOD SYSTEM

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ABBREVIATIONS AND ACRONYMS

ACIAR	Australian Centre for International Agricultural Research (ACIAR)
ADePT	software tool for analyzing existing datasets developed by the World Bank and the FAO
BMI	body mass index
CEMA	Commodity Export Marketing Authority
CFS	United Nations Committee on World Food Security
COVID-19	coronavirus disease
DEC	dietary energy consumption
DFAT	Department of Foreign Affairs and Trade (Australian Government)
FAO	Food and Agriculture Organization of the United Nations
FFNC	Food Fortification National Committee
FJI	Fiji (in figures)
FNSV	fruits and non-starchy vegetables
g	gram
GDP	gross domestic product
GoSI	Government of Solomon Islands
ha	hectare
HCC	Honiara City Council
HCM	Honiara Central Market
HIES	Household and Income Expenditure Survey
HLPE	High Level Panel of Experts on Food Security and Nutrition
ICT	information and communications technology
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
kcal	kilocalorie
kg	kilogram
KGA	Kastom Gaden Association
km	kilometre
MAL	Ministry of Agriculture and Livestock
MCILI	Ministry of Commerce, Industries, Labour and Immigration

MDHRD	Ministry of Education and Human Resources Development
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology
MFAET	Ministry of Foreign Affairs and External Trade
MFMR	Ministry of Fisheries and Marine Resources
MHMS	Ministry of Health and Medical Services
MIGA	Multilateral Investment Guarantee Agency
MOFT	Ministry of Finance and Treasury
NCD	non-communicable disease
NFSFSNP	National Food Security, Food Safety and Nutrition Policy (2019–2023)
NGO	non-governmental organization
OCED	Organisation for Economic Co-operation and Development
PHAMA	Pacific Horticultural and Agricultural Market Access Program
PICTs	Pacific Island countries and territories
RDP	Rural Development Program
Rio+20	United Nations Conference on Sustainable Development
SAMOA	Small Island Developing States Accelerated Modalities of Action (Pathway)
SBD	Solomon Island dollar
SD	standard deviation
SDG	Sustainable Development Goal
SICCI	Solomon Islands Chamber of Commerce and Industry
SIDS	Small Island Developing States
SME	small or [and] medium enterprise
SPC	Pacific Community
t	tonne
tCO ₂ e	tonnes of carbon dioxide equivalent
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
UNCDF	United Nations Capital Development Fund
UNFSS	United Nations Food Systems Summit (held September 2021)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USD	United States dollar
WHO	World Health Organization

EXECUTIVE SUMMARY

A well-functioning Solomon Islands food system is critical for economic, physical and social well-being, and for environmental sustainability. Many aspects of the system are currently considered to be underperforming. The Solomon Islands food system is predominantly rural and subsistence-based – farming and fishing are mainly done on a small-scale, and agricultural yields are typically low. Agricultural production is dominated by staple crops, most of which are produced by the household in which they are consumed or are shared with kin and community. The range of accessible and affordable foods is limited, meaning dietary diversity is generally low. A narrow range of cash crops is produced for export, notably oil palm, copra, cocoa and kava. Domestic supply chains are typically short. Imported foods are increasingly part of the national diet, particularly in urban areas. The food system of Honiara, the capital, differs from rural areas as more food is purchased through formal markets, including supermarkets, and fewer people grow their own food.

While there are limited national data for reporting against many Sustainable Development Goals, current estimates of income poverty indicate 25 percent of people live below the international poverty line. In rural areas, 5 percent of the population live below the national food poverty line, and rural households spend 64 percent of the value of household consumption on food. Solomon Islands is experiencing the triple burden of malnutrition (undernutrition, overnutrition and micronutrient deficiencies). The prevalence of undernourishment is almost 17 percent. More than one in three children younger than 5 years old are anaemic and the high prevalence of anaemia in women of reproductive age and pregnancy is of critical concern for maternal health outcomes and infant development. The prevalence of overweight, while low for the Pacific region, is among the highest globally for adults (60 percent for women, 50 percent for men) and is increasing for children (4 percent). Dietary-related non-communicable diseases are on the rise and account for 67 percent of all deaths in Solomon Islands.

Biophysical and environmental drivers of food system dynamics, including extreme weather, have shaped the Solomon Islands food system over time. Climate change will increase the frequency and intensity of these events, with negative predictions for fisheries and crop production. Traditional food knowledge that has evolved over generations will be necessary for innovation in an ongoing process of change and adaptation. The Solomon Islands food system is increasingly reliant on trade for food imports and these products have a direct influence on public health. They are



also open to disruption in global food and agriculture markets. Ongoing political instability influences the ability of food system actors to govern these external drivers and shape the extent of their influence. Culture and social traditions are intricately linked to food in Solomon Islands and influence the way people produce, acquire and consume food. The role of women in the food system is critical, although often undervalued. Population growth has important implications for the food system, including growing urbanization, the different dynamics between urban and rural systems, and the way in which people interact with food.

Domestic food production is increasing, but has declined on a grams per capita per day basis. Around 93 percent of households cultivate crops and more than half of rural households engage in fisheries. Imports of food and beverages, predominantly rice, wheat and wheat flour, are an increasingly notable component of the national food system. The exchange of food between producers and consumers occurs through a diverse range of pathways with strong social ties that often do not constitute a standard supply chain. Different forms of ‘markets’ have been established over time, with some markets based on exchange or financial transactions, or a combination of both. The largest formal markets are in Honiara, Gizo and Auki. Access to markets is limited by lack of transportation and poor infrastructure, including roads and cold storage. Most post-harvest processing in Solomon Islands is primary processing.

Most food (75 percent by volume) is acquired directly through people growing or wild harvesting. Central and local markets account for only 3 percent and 4 percent, respectively, of the total quantity of food acquired. Nearly all urban households access formal (99 percent) and informal (98 percent) retail food environments, while nearly all rural households access cultivated (98 percent) and wild (87 percent) food environments. Reliance on formal retail food environments was associated with lower diet quality. In contrast, reliance on cultivated, wild and kin and community food environments is a significant positive predictor of diet quality. Not all households have access to a balanced diet, as fewer than one household in five reaches adequate amounts of proteins, fats and carbohydrates. Most people below the food poverty line live in rural areas and there is a degree of inequality in the distribution of dietary energy supply, particularly for vulnerable groups.

Diets in Solomon Islands are high in energy-dense foods, such as cereals, root crops, sugar and coconut, and low in nutrient-dense foods, such as fruits and vegetables. Roots, tubers and plantains contribute most of the dietary energy consumed in all provinces and enumeration areas except for Honiara, where cereals are the main food group consumed. Fish and seafood account for more than 40 percent of the proteins

available for consumption. Growing urbanization is accompanied by changing patterns of food consumption. Rice, noodles, ring cake and canned tuna have become common staples in households due to convenience and taste preference, and their consumption is linked to nutrition issues.

The closing of borders to shipping, flights and travel due to the coronavirus disease (COVID-19) pandemic highlighted the dependence of the country on imported food supplies and agricultural inputs, medical supplies and industrial inputs. Women comprise the majority of sellers in the open-air fresh food markets that were disrupted due to COVID-19 related restrictions, with knock-on effects on household and village economies. Rural areas experienced an increased circulation of people – those who moved out of Honiara and back to the provinces – and reduced cash flow. A major change to markets in 2020 was reduced cash flow and fewer customers at markets. Comparison between the market surveys conducted in 2020 and 2021 saw a general drop in prices of key commodities with the exception of fresh fish. Supermarkets, stores and canteens were more likely to report higher prices compared with market vendors. In response to limited food access, many city dwellers established their own home gardens and fishing activities to complement diets, while others reduced general consumption of food and other consumables.

A key policy overseeing all elements of the food system is the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030. Other critical policy sectors that influence food production are fisheries, women and youth. In addition to a clear focus on increasing production for livelihoods and export, there is also strong acknowledgement and prioritization of traditional production knowledge and methods, which include traditional food crops. The Government of Solomon Islands has also established goals for greater participation in export trade markets and moving towards higher value-added products. Overall, food system policies have a strong economic focus, with clear aims to improve primary production and maximize economic opportunity. Building on current policy priorities and actions, there is an opportunity to reorientate policy from its current focus on economic issues, to further consider environmental and health impacts of the food system. There is an opportunity for provincial governments to take a more active role in food system planning and activities.

Multisectoral leadership in agriculture is particularly strong, suggesting an opportunity to further develop a “food systems lens” to increase policy coherence through multi-sectoral governance. There is discussion around the need for a national food council to support this, especially the integration of policy objectives related to nutrition and environment. Two ongoing governance challenges identified were: 1) the need for



government to engage and cooperate more with private sector, particularly to build capacity among farmers and small and medium enterprises; and 2) institutional capacity within government to coordinate food system policy and implement nutrition and food environment policy.

Food imports have increased significantly since 2001, with urban populations the major consumers. The Government of Solomon Islands has repeatedly recognized food import dependence as a challenge to food security and economic growth. Import substitution has been a long-term policy priority, including policy measures within the agriculture, trade, commerce and health sectors. There is an opportunity for further policy investment to both lessen dependence on food imports and support healthy diets based on traditional, locally produced foods. Drawing on a food systems approach, our analysis has identified three potential avenues to enhance existing policy efforts in Solomon Islands to reduce food import dependence: 1) introducing measures to incentivize urban households to grow food crops; 2) improving transport and storage of domestically produced food to increase sellers' access to markets; and 3) stimulating demand for local foods.

Solomon Islands' strong connection to traditional systems, in combination with development partnerships, creates a unique opportunity to undertake actions that simultaneously provide sustainable, affordable and healthy diets for the whole population as well as good livelihood opportunities. Based on the consultations and analyses summarized above, three key pathways for food system change may be recognized: 1) strengthen and connect the rural food system; 2) strengthen the national policy environment; and 3) advocate for food environments that make healthy food more accessible, affordable and convenient. These pathways are centred on different scales (provincial, national inward-looking and national outward-looking) but overlap and interact in important ways. Rural areas must be prioritized alongside urban areas, and strong connections forged between them for national prosperity. The pathways identified recognize areas of strength that are already being supported and that do not need to be "transformed" as much as they need to be strengthened to continue their positive trajectory.

SECTION 1

INTRODUCTION: NATIONAL-LEVEL FOOD SYSTEM ANALYSIS

A well-functioning Solomon Islands food system is critical for economic, physical and social well-being, and for environmental sustainability; however, many aspects of the system are currently considered to be underperforming. A transition towards more healthy and sustainable food systems is being promoted globally as a vital process to address numerous global challenges at various scales, including achieving the 2030 Agenda and the Sustainable Development Goals (SDGs) (HLPE, 2017; FAO, 2018; Global Panel on Agriculture and Food Systems for Nutrition, 2020; FAO *et al.*, 2021). It is increasingly recognized that these interrelated global challenges can be better addressed by governments at local, national and supranational levels through territorial approaches (OECD, FAO and UNCDF, 2016). These approaches highlight the importance of effective governance and institutions to the implementation of coherent and complementary food systems policies. However, food systems governance is often fragmented, siloed by sectors and not coherently linked with other decision-making levels (e.g. local and supranational; FAO *et al.*, 2021; Reeve *et al.*, 2022).

The Government of Solomon Islands and other national stakeholders have articulated their support for a transition towards a more healthy and sustainable food system. Immediate national food system priorities include ensuring that health concerns and broader challenges, such as overcoming poverty and environmental harm, are supported. These national priorities and trends reflect broader global trends in the evolution of sustainable food systems (for recent examples, see Fanzo *et al.*, 2020; Herrero *et al.*, 2020; Andrew *et al.*, 2022).

The High Level Panel of Experts on Food Security and Nutrition (HLPE) – representing the science–policy interface of the United Nations Committee on World Food Security (CFS) – defines food systems as including:

all elements and activities related to the production, processing, distribution, preparation and consumption of food, the market and institutional networks for their governance, and the socio-economic and environmental outcomes of these activities. (HLPE, 2017)

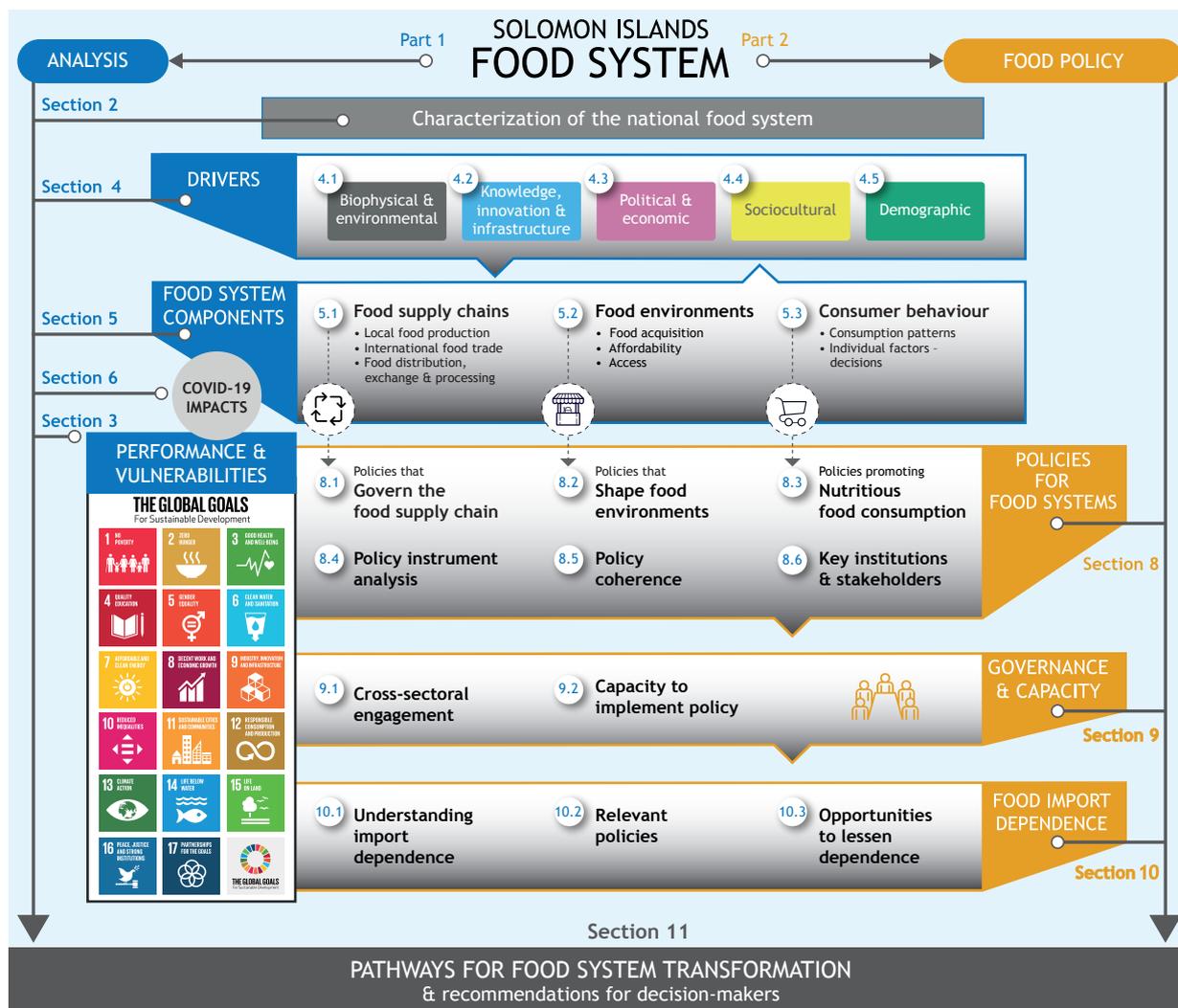
As food systems frameworks have typically been developed at an international level, there is an urgent need to better understand the ways in which national food systems are evolving, including the implications of changes for malnutrition, and for environmental, economic and social sustainability (Global Panel on Agriculture and Food Systems for Nutrition, 2016; HLPE, 2017; Béné *et al.*, 2019). An informed understanding of national food systems is required to underpin policies that consider food systems interconnections and to ensure integration across sectors to enable and empower governments, businesses and people to solve food systems problems in a coherent way. Food systems operate across multiple levels, and understanding interactions between and across global, national and local levels is critical, yet national and local food systems data remain scarce.

Well-functioning food systems can contribute to overcoming malnutrition through consumption of nutritious food, as well as reducing poverty through income generation from the production and sale of food. However, the interaction between food systems and SDGs can have both positive and negative implications, with food systems activities responsible for a global decline in human health as well as environmental degradation (Willett *et al.*, 2019). Meeting the SDG targets presents a significant challenge for Solomon Islands, as it does for many Small Island Developing States (SIDS), and will require a combination of actions that are both supportive of traditional approaches to food as well as transformative to achieve a more sustainable system that “*delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised*” (FAO, 2018).

Food systems can be defined and described at many scales, from the local to the global. In this analysis, we focus on the national scale, providing provincial and smaller scale analyses where appropriate. The report is organized using the elements of the HPLE (2017) framing (Figure 1.1) and provides analysis of food system characteristics, in addition to policies and regulations related to the Solomon Islands food system at the national level. We use the term ‘food system’ instead of the broader ‘agrifood system’ as our focus is solely on food and not on non-food products, that form part of agrifood systems, such as forestry, animal rearing, use of feedstock, and biomass to produce biofuels and fibres.

The report draws heavily on available analyses and datasets, rather than data collected in the course of this contract. In particular, published analyses by the authors of the report are abstracted; these include Troubat, Sharp and Andrew (2021), Bogard *et al.* (2021), Sharp and Andrew (2021) and Andrew *et al.* (2022). Many of the datasets used have not yet been published but, where appropriate, unpublished data held by the authors are also used. The report is therefore a synthesis of these datasets, as well as data collected through interviews, literature reviews, policy analyses and consultations, which have undergone validation and translation from the national workshops. The trade analysis used version 2.1 of the Pacific Food Trade Database (Brewer *et al.*, 2022). The policy analysis component involved examination of current policy documents as well as interviews with key stakeholders.

Figure 1.1: A schematic of this report organized by the elements of the Solomon Islands food system



Source: HPLPE 2017 (High Level Panel of Experts on Food Security and Nutrition). 2017. *Nutrition and food systems: A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome*. HPLPE Report 12. fao.org/3/i7846e/i7846e.pdf

The report is organized in sections aligned with the HLPE food system framing (Figure 1.1) and is structured around two main sections. Part 1 focuses on food system analysis and Part 2 on the food policy landscape.

The Part 1, *Section 2* describes current food system framings and provides a characterization of the Solomon Islands food system based on the findings of the analysis. *Section 3* presents an overview of national food system outcomes in terms of human and environmental health. This section is based largely on a report on poverty, malnutrition and food security in Pacific SIDS by Sharp and Andrew (2021), and links Solomon Islands food system performance to the SDGs for which there are data available. Food system outcomes are partly determined by system vulnerabilities and adaptive capacities, and we present information on the main vulnerabilities of the Solomon Islands food system in terms of natural disasters, climate change, food imports and political upheaval.



Participants of the national consultation workshop on improved food systems for better food security and nutrition in Solomon Islands held in Honiara, 17 November 2021.

Food system evolution is shaped by a range of drivers (*Section 4*). These drivers can be external or internal and can change over time. We present drivers that were identified through literature searches and workshops in Honiara and Auki in 2021 and describe how they have influenced food system change through historical influences and more modern events. Workshop participants represented food system “sectors” including fisheries, agriculture, health, commerce and environment, and were from government, academia, non-governmental organizations (NGOs) and the private sector. In *Section 4*, we also describe the evolution of the food system, depicting key events that have shaped it over time.

Section 5 is structured around the key components of a food system framework that considers food supply chains, food environments and consumer behaviour (HLPE, 2017; Fanzo *et al.*, 2020). We present data on food supply, both national food production and international trade, as well as data on food distribution through community and livelihood value chains and through standard market value chains. We also present data on food environments – the places and pathways through which people acquire and consume food – adapted from a study by Bogard *et al.* (2021). Solomon Islands is of special interest in that own-produced food, or the cultivated food environment, is by far the most important food environment in which people acquire and consume food, rather than retail outlets as in many other countries. Exploring this food system component is an important part of understanding national health outcomes. We then present data on food consumption patterns, adapted from Troubat, Sharp and Andrew (2021), showing the main food groups consumed and sources of dietary energy as well as the contribution of food expenditure to overall household budgets.

The COVID-19 pandemic has had a substantial impact on the Solomon Islands food system. In *Section 6*, we present data on COVID-19 impacts, including changes to the food system and emerging trends. The data presented have been collected through market surveys conducted in 2020 and 2021 (Tutuo, Farrell and Bogard, unpublished report) and personal accounts of co-authors who are Solomon Islands nationals.



Participants of the provincial consultation workshop, held in Auki, Malaita Province, 23 November 2021.

Part 2 of the report focuses on the food policy landscape. *Section 7* introduces the policy space for the food system in Solomon Islands. *Section 8* then provides a detailed analysis of policy priorities relevant to the food system in Solomon Islands, spanning production, food distribution, processing, access to markets and trade, as well as policies that directly shape food environments. The section also includes an overview of the key policy actors relevant to food system policy in Solomon Islands. *Section 9* describes an analysis of key elements of governance and capacity for food systems, and particularly for promoting healthy and sustainable diets through food systems. *Section 10* provides an overview of food import dependence in Solomon Islands, and opportunities to strengthen policy to lessen dependence on food imports.

The final section of the report (*Section 11*) presents pathways for positive food system change, developed in consultation with co-authors and workshop participants, and building on the national directions articulated through the United Nations Food Systems Summit (UNFSS) process as well as regional directions articulated by the Pacific Community (SPC).¹ These pathways are combined with recommendations to support decision-makers in their future policies and plans.

1 SPC recently commissioned a rapid review of the Pacific countries' food system Pathways following a series of UNFSS regional and national dialogues. Available at https://www.spc.int/sites/default/files/resources/2022-04/EVIDENCE_BRIEF_UNFSS_V3_eVersion.pdf

SECTION 2

CHARACTERIZATION OF THE NATIONAL FOOD SYSTEM

The Solomon Islands food system can be characterized as a predominantly rural and traditional food system, where farming and fishing are mainly done on a small-scale, and agricultural yields are typically low. Agricultural production is dominated by staple crops, most of which are produced by the household in which they are consumed or are shared with kin and community. The range of accessible and affordable foods is limited, meaning dietary diversity is generally low. A narrow range of cash crops are produced for export, such as oil palm, copra, cocoa and kava. Domestic supply chains are typically short. Food that is transported to market is generally the excess after family and community needs have been met.

A relatively small percentage of food is sourced from imports; however, a transition is occurring towards a greater reliance on imported food, predominantly in urban areas. The food system of Honiara, the capital, differs from rural areas as more food is purchased through formal markets, including supermarkets, and fewer people are engaged in growing or harvesting their own food. The dramatic increase in imports of food and beverages over the past 25 years – evidence of Solomon Islands’ progressive integration into the global food regime – has impacted availability and consumption of food, population health and vulnerability to external drivers.

2.1 FOOD SYSTEMS FRAMEWORKS

To improve food systems outcomes, it is important to develop a clear understanding of what particular food systems look like. While a range of food systems typologies exist, we have used the CFS and HLPE food system conceptual framework to guide this report (HLPE, 2017). Given the importance of national food systems policy and practice, the CFS and HLPE framework has been developed for, and agreed upon, by national governments that are members of the CFS, noting that Solomon Islands is not currently a member. The conceptual framework, which continues to evolve with the development of voluntary guidelines for food systems development in national and regional consultations (Brouwer, McDermott and Ruben, 2020), distinguishes linkages and feedbacks between three key components: food supply chains, food environments and consumer behaviour. These components are influenced by drivers and act to shape diets and determine the final nutrition, health, economic and social outcomes of food systems (HLPE, 2017).

Solomon Islands participated in recent food systems dialogues with technical support from the Food and Agriculture Organization of the United Nations (FAO) as part of events leading to the UNFSS, held in 2021. These dialogues engaged stakeholders in food systems thinking. However, much food systems governance remains siloed in individual sectors and challenges remain in implementing a multisectoral approach to food. Other food systems considerations include taking a whole-diet approach that provides insights into the impact pathways for generating food systems change, the potential effectiveness of different types of policy interventions (Brouwer, McDermott and Ruben, 2020) and an appreciation of how history has shaped contemporary production, distribution, acquisition and consumption of food (Andrew *et al.*, 2022).

2.2 FOOD SYSTEM CHARACTERIZATION

Pacific Small Island Developing States (SIDS) are diverse and heterogeneous, and our intention in this report is to help build a typology of Pacific food systems, which are currently not well represented in existing theorized food systems types. Our main goal is to assess the Solomon Islands food system, based on diverse datasets and information, to identify key pathways to improve food and nutrition security of the population, as well as livelihood opportunities, in an environmentally sustainable way. These pathways may be considered “transformations” of existing systems where the need for fundamental change to the intrinsic nature of the Solomon Islands food system is identified. In other cases, pathways to improve food system outcomes may require more support for existing food system activities rather than a transformation.

Solomon Islands includes over 900 islands, 6 of which are large islands (more than 31 square kilometres) and high (more than 88 metres) (Nunn *et al.*, 2016) (Figure 2.1), while others are low coral atolls. The people living on the large islands are predominantly farmers and fishers, as larger and higher islands are more likely than low islands to have arable land and to receive sufficient rainfall for agriculture.

Figure 2.1: Map of Solomon Islands showing the geographical extent of provinces and location of the capital city, Honiara



Notes: Makira-Ulawa Province is shown as ‘Makira’. Santa Isabel is referred to as Isabel in the remainder of the report. The Temotu islands lie to the east of the main island chain and are not shown to scale.

Source: United Nations. 2022. Web-services. In: *Maps and Geoservices*. Apia. Cited 31 October 2022. www.un.org/geospatial/mapsgeo/webservices

Our characterization of the Solomon Islands food system is based on the HLPE (2017) framing, with modifications to make it more relevant to the Pacific context and to the specific national differences of Solomon Islands. Typologies are a classification tool that can support researchers and policymakers in conceptualizing and analysing food systems (Marshall *et al.*, 2021). Different food systems types can be described as: rural and traditional; informal and expanding; emerging and diversifying; modernizing and formalizing; and industrial and consolidated (Fanzo *et al.*, 2020). These characterizations are based on common patterns in food supply chains and food environments that exist across countries. When applied to national food systems, a typology can help to identify countries with similar food systems that may be more likely to share common drivers of dietary, economic and environmental change, and be responsive to similar policy actions or technological or institutional innovations (Marshall *et al.*, 2021).

Based on the research included in the following sections, and guided by described food systems types (HLPE, 2017), we characterize the Solomon food system as a predominantly rural and traditional food system, where farming and fishing are mainly done on a small-scale, and agricultural yields are typically low. Agricultural production is dominated by staple crops, most of which are produced by the household in which they are consumed, or shared with kin and community (Table 2.1). Fish is one of the major sources of dietary protein. Finfish, including reef, mangrove and pelagic species, are typically important for consumption; however, the type of seafood consumed in different areas varies with the level of access to fishing grounds and distance to provincial market centres. Staples that are affordable (e.g. white rice) are generally accessible, but the range of accessible and affordable foods is limited, meaning dietary diversity is generally low. A limited number of cash crops is produced for export, such as oil palm, copra, cocoa and kava. Supply chains are typically short. Food transported to market is often the surplus after family and community needs have been met and can be the best of the harvest or catch to achieve the best price (e.g. the largest fish). Food is not produced to meet market demand and there is a lack of cold storage, meaning that product diversity and quality can be low at times. Markets are mainly informal. Rural livelihoods are heavily concentrated in the subsistence sector, where women play a prominent role in inshore fishing and gleaning, as well as selling agricultural produce and goods produced in the home at markets or alongside roads (FAO and SPC, 2019).

At the national level, a relatively small percentage of food is sourced from imports; however, a transition is occurring towards a greater reliance on imported food, including unhealthy processed products. While these products are widely available, they are predominantly consumed in urban areas. The food system of Honiara, the capital, differs from rural areas as more food is purchased through formal markets, including supermarkets, and fewer people are engaged in growing or harvesting their food. This difference between urban and rural areas reflects the increasing exposure of Pacific Islands to the contemporary or corporate food regime. Evidence of Solomon Islands' progressive integration into the global food regime has been a dramatic increase in imports of food and beverages over the past 25 years, which has impacted availability and consumption of food, population health and vulnerability to external drivers (Andrew *et al.*, 2022).

Table 2.1 presents a simplified characterization of the Solomon Islands food system based on food system types identified by the HLPE (2017). A more comprehensive description of the Solomon Islands food system's components is included in Section 5 and provides details on food supply chains, food environments and consumer behaviour.

Table 2.1: Characterization of the Solomon Islands food system based on food systems types identified by the HLPE (2017)

Food system component		Solomon Islands traditional food system characteristics
FOOD SUPPLY CHAINS	Local food production and international food trade	<ul style="list-style-type: none"> • small-scale food production dominated by staple crops, • 80 percent of people engaged in agriculture and fisheries, • small-scale fisheries activities in the offshore and nearshore reefs.
	National-level food distribution, processing, exchange and markets	<ul style="list-style-type: none"> • poor storage facilities, • basic processing and limited packaging, • short market value chains, • most food exchanged through community and livelihood value chains, • lack of necessary infrastructure (e.g. roads, bridges and proper market shelters).
FOOD ENVIRONMENTS	Availability and physical access (proximity)	<ul style="list-style-type: none"> • 60 percent of food acquired through cultivated food environments and 15 percent through wild food environments, • most households rely to some extent on kin and community as a source of food, • informal retail also important for acquisition, • formal retail more important in urban areas.
	Economic access (affordability)	<ul style="list-style-type: none"> • costs of meeting basic needs (including food) higher in urban than rural areas, • “pulses, seeds and nuts” – consisting predominantly of brown or dried coconut – is the most affordable source of dietary energy, • imported rice accounts for 16 percent of household expenditure, • seasonality of local food influences access and dietary diversity.
	Promotion, advertising and information	<ul style="list-style-type: none"> • little advertising outside urban areas, • little information in terms of labelling and guidelines, • limited information distributed through public health nutrition education.
	Food quality and safety	<ul style="list-style-type: none"> • low control of quality and food safety standards, • little to no cold storage, • less demand for high-quality ingredients, • lack of access to safely managed sources of water and sanitation.

Source: HLPE (High Level Panel of Experts on Food Security and Nutrition). 2017. *Nutrition and food systems: A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome*. HPLE Report 12. fao.org/3/i7846e/i7846e.pdf

SECTION 3

FOOD SYSTEM PERFORMANCE AND VULNERABILITIES

Food system performance in Solomon Islands can be considered in the context of progress towards meeting the SDGs. There are limited national data for many SDGs and data that exist are at times old and not disaggregated by status such as gender, age or disability. Current estimates of income poverty in Solomon Islands indicate that 25 percent of people live below the international poverty line. In rural areas, 5 percent of the population live below the national food poverty line, and rural households spend 64 percent of the value of the household consumption baskets on food. Rural women are likely to face greater challenges in health care due to its poor quality in rural areas and limited accessibility. Life expectancy at birth for Solomon Islanders is lower than the Pacific average while the total fertility rate remains higher.

Solomon Islands is experiencing the triple burden of malnutrition (undernutrition, overnutrition and micronutrient deficiencies). The prevalence of undernourishment is almost 17 percent, with approximately 3 percent of adults and 16 percent of children under-

weight. The high prevalence of anaemia in women of reproductive age, including during pregnancy, is of critical concern for maternal health outcomes and infant development. The prevalence of overweight, while low for the Pacific region, is among the highest globally for adults (61 percent for women, 50 percent for men) and is increasing for children (5 percent). Dietary-related non-communicable diseases (NCDs) are on the rise and account for 67 percent of all deaths in Solomon Islands. The management of natural resources, such as fisheries, forests and agricultural land, influences food system performance and few areas are formally protected. While Solomon Islands contributes a negligible percentage of global greenhouse gas emissions, climate change will increase the frequency of extreme weather events in the future. The number of deaths, missing persons and directly affected persons attributed to disasters is already higher than the global average. Solomon Islands ranks very high for exposure, susceptibility and lack of adaptive capabilities to disasters, and high for vulnerability and lack of coping capabilities.

This overview provides a baseline assessment of the current Solomon Islands food system in relation to those SDGs for which there are data. The overview draws heavily on text and data from the FAO report *Poverty, malnutrition and food security in Pacific Small Island Developing States* (Sharp and Andrew, 2021). It also links food system performance to key vulnerabilities and identifies opportunities for improving resilience of the food system. Vulnerability encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (Adger, 2006; Intergovernmental Panel on Climate Change, 2014). Countries with low economic capacity and income tend to have higher vulnerability and lower capabilities in averting disasters. In these countries, including Solomon Islands, extreme natural events often lead to further reductions in existing capacities. Solomon Islands was ranked second, behind Vanuatu, on the World Risk Index in 2021. The ranking of countries is determined by a country's exposure, vulnerability and susceptibility to disasters, as well as its lack of coping and adaptive capabilities. Solomon Islands scored very high for exposure, susceptibility and lack of adaptive capabilities, and high for vulnerability and lack of coping capabilities (Bündnis Entwicklung Hilft, 2021).

Reducing poverty, malnutrition and food insecurity are common development goals among SIDS, including Solomon Islands (United Nations, 2014). Eradicating extreme poverty, preventing NCDs and achieving food security for all are the respective missions of the World Bank, the World Health Organization (WHO) and FAO. Numerous resolutions and political commitments also share these common goals, including the Small Island Developing States Accelerated Modalities of Action (SAMOA) Pathway, Johannesburg Declaration on Sustainable Development and the United Nations Conference on Sustainable Development (Rio+20).

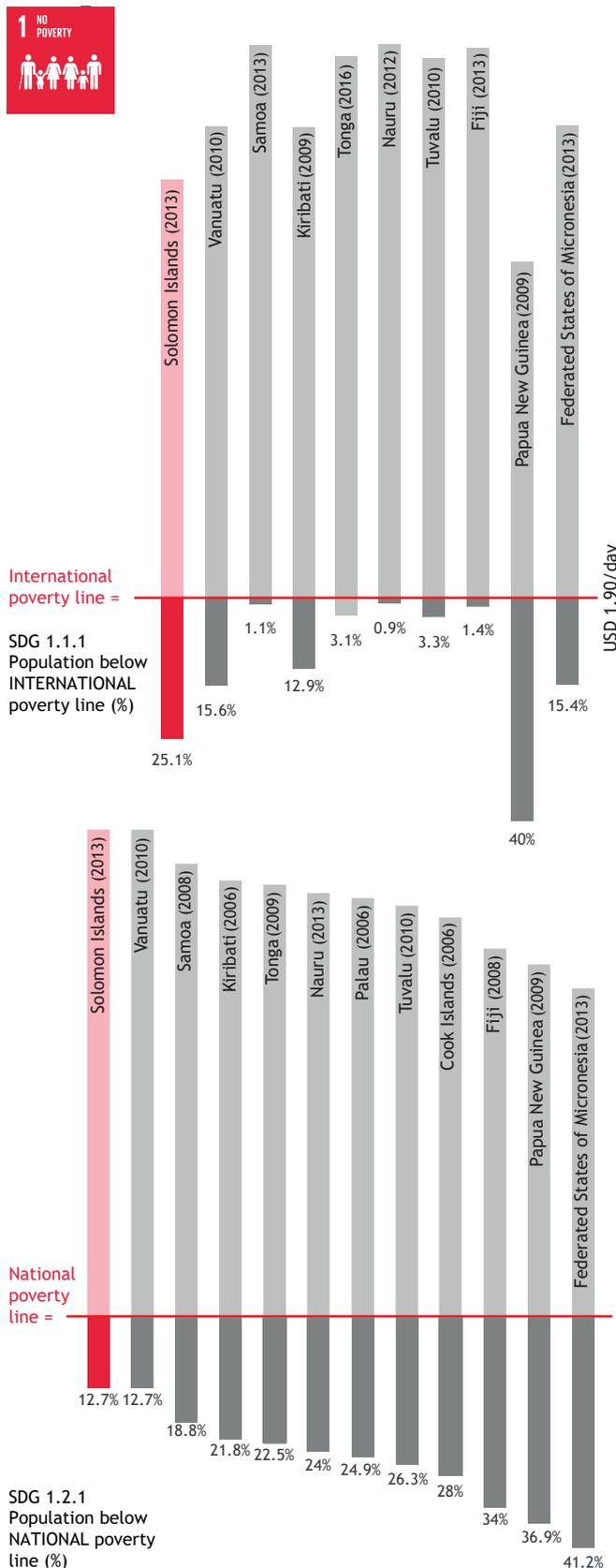
These international commitments are brought into sharp focus by the 2030 Agenda for Sustainable Development (United Nations, 2015), which was adopted by all United Nations Member States in 2015. Poverty, malnutrition and food security are deeply interconnected. The capacity of people to acquire food in enough quantity and quality directly impacts their experiences of food security. The availability of food, people's agency in making choices about the food they acquire and the decisions they make all impact their diet. In short, the availability, access and stability of supply are major contributors to diet quality and the health outcomes that flow from it.

3.1 POVERTY

Historically, the concept of poverty and its estimation using income has been contested in the Pacific region. Most livelihoods in Solomon Islands have been based on the food people grow or catch themselves. The cash economy has been small, most people have not relied on cash incomes as their main economic foundation, and formal employment has not been available for much of the population (Barclay *et al.*, 2020). The concept of "income poverty" therefore has limited relevance, given the high proportion of people living in rural areas where cash is less important.

There are limited national-level data on poverty in Solomon Islands required to report on SDGs, including poverty prevalence by gender, age, area and disability status, and those indicators dependent on measuring progress over time (e.g. SDG 10.1.1). This lack of data is problematic given that specific population groups, such as women,

Figure 3.1: Percentage of population below poverty line (SDGs 1.1.1, 1.2.1) in selected PICTs, including Solomon Islands (SLB), based on a range of national and regional sources



Source: Pacific Data Hub (PDH), 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

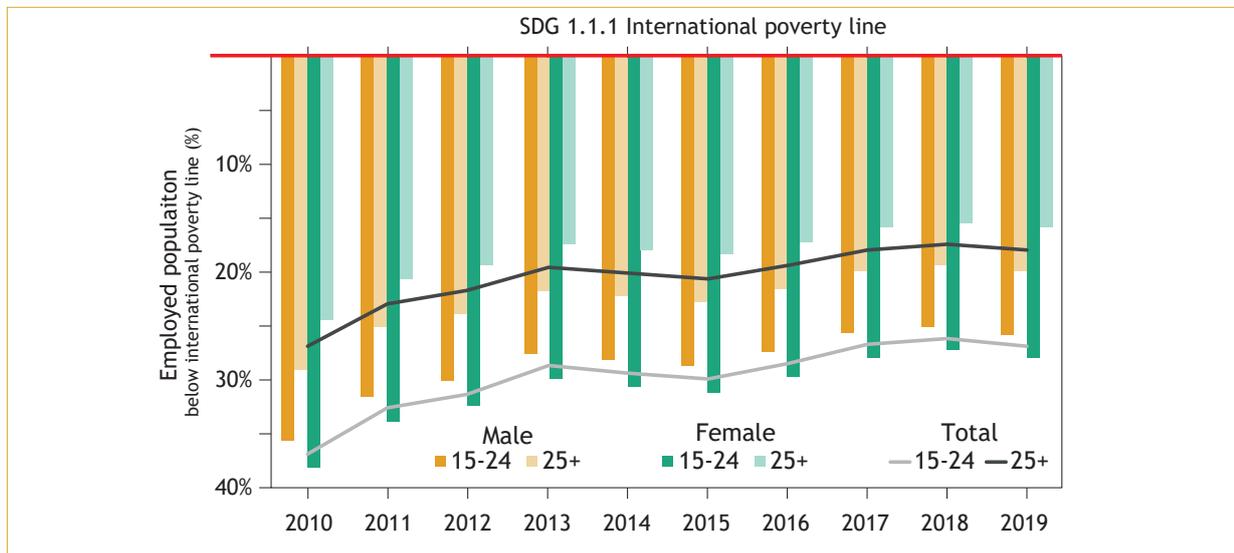
children and people with disabilities, are more vulnerable to hardship and inequality. Current estimates of income poverty in Solomon Islands indicate that 25 percent of people live below the international poverty line (SDG 1.1.1) of USD 1.90/day; Pacific Island countries and territories (PICTs) range from 0.9 percent to 40 percent (Figure 3.1, top). The percentage of people aged 15–24 years living below the international poverty line is greater than those aged 25 and over. A breakdown of the population living below the international poverty line by gender and age exists only for employed people. Proportionally more women aged 15–24 years that are employed live below the international poverty line than men (Figure 3.2).

Poverty can also be expressed in terms of basic needs. In order to obtain the full “basic needs” poverty line in Solomon Islands, the additional cost for purchasing basic non-food goods is added to the food poverty line. This cost of basic non-food goods also varies by location. All households whose expenditures fall below the basic needs (or national) poverty line are deemed to be poor (GoSI, 2015). This figure equates to about 12.7 percent of the population living below the national poverty line (SDG 1.2.1) (Figure 3.1, bottom). Basic needs poverty incidence has been found to vary considerably across provinces, being higher than the national average in Makira-Ulawa, Guadalcanal and Honiara, and lowest in Temotu. Honiara has the highest basic needs poverty line as meeting basic needs costs twice as much in Honiara than in most other provinces due to the higher cost of both food and non-food goods (GoSI and World Bank, 2015). However, basic needs poverty in Solomon Islands is largely a rural phenomenon where people living in rural areas are more susceptible to living below the basic needs poverty line (Sharp and Andrew, 2021).

Food poverty is also relevant to Solomon Islands as it encompasses both affordability and accessibility within local communities. The food poverty line is calculated as the minimum amount of money a person requires to secure an energy intake of 2200 kcal/day, given prevailing dietary patterns of the poorer groups in Solomon Islands (GoSI and World Bank, 2015). Food prices vary across the country and, as a result, the food poverty line also varies by location.

The majority of the more severely poor – those below the food poverty line – live in rural areas (GoSI and World Bank, 2015). In these areas, 5.3 percent of the population are below the national food poverty line and rural households spend 64 percent of the value of the household consumption baskets on food (World Bank, IFC and MIGA, 2017).

Figure 3.2: Trends in the percentage of employed population living below the international poverty line (SDG 1.1.1), Solomon Islands, 2010–2019



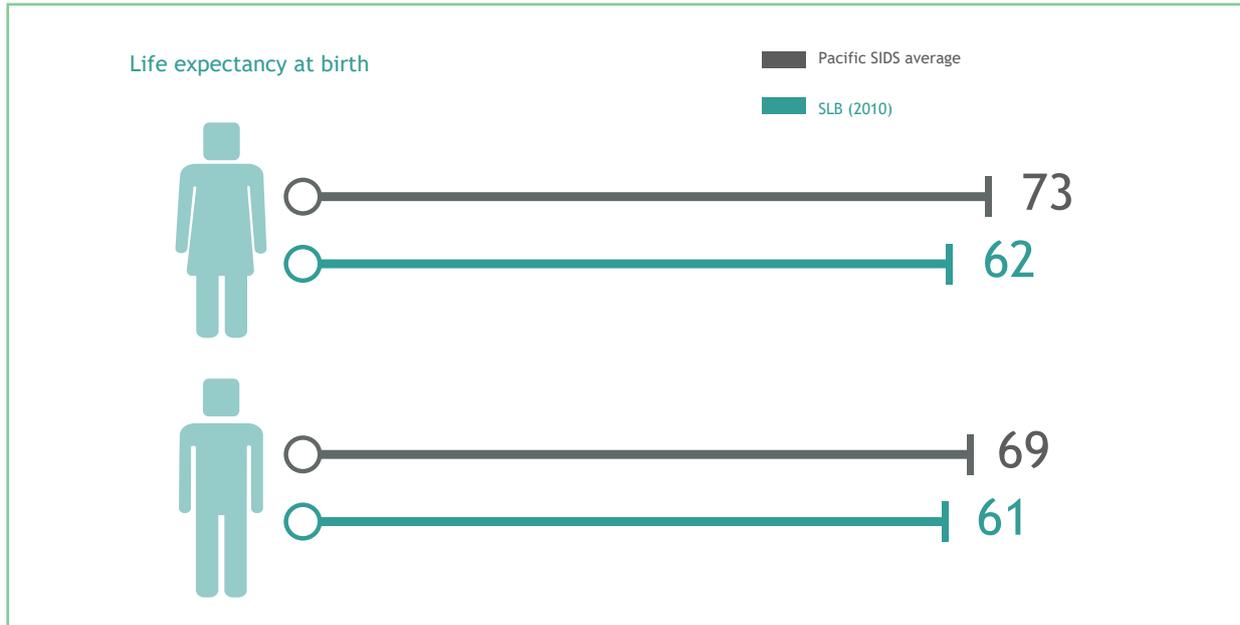
Source: Pacific Data Hub (PDH). 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

Food poverty in urban areas is reported to be low (World Bank, IFC and MIGA, 2017); however, urban households are potentially susceptible to food poverty given their lower participation in primary production and higher dependency on cash-purchased food (Sharp and Andrew, 2021).

Troubat, Sharp and Andrew (2021) found that average daily per capita dietary energy consumption (DEC) was lower in Honiara, with half of foods consumed categorized as “foods to limit” in the Pacific Guidelines for Healthy Living (SPC, 2018), suggesting that urban people are susceptible to both energy and nutrient deprivation. Regardless of which poverty line or poverty statistics are used, a higher proportion of the rural population is found to be living under the line than the urban population (GoSI and World Bank, 2015). Data from the Human Development Index (UNDP, 2019) can provide information as a proxy for SDG indicator 1.2.2 (proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions). The index is a composite measure that includes life expectancy, education and gross national income. Of the 189 countries in the Human Development Index, Pacific SIDS have an average rank of 121 (range of 52 to 156) and Solomon Islands is ranked 151.

Life expectancy at birth for Solomon Islanders is lower than the Pacific average: 61 years compared with 69 years for men, respectively; and 62 years compared with 73 years for women (Figure 3.3). The total fertility rate is higher than other Pacific SIDS (average of 4.4 children per female compared with regional average of 3.5) (Figure 3.4). Gross national income per capita is, on average from a global perspective, low and similar to many other Pacific Island nations classified as least developed countries.

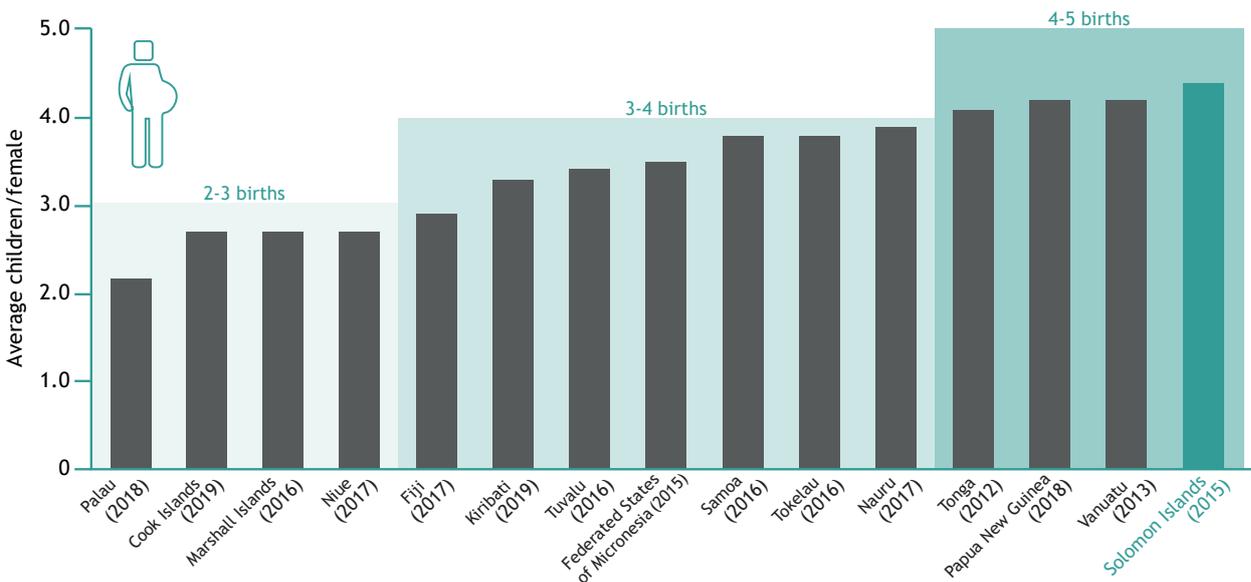
Figure 3.3: Life expectancy at birth of Solomon Islands (SLB) women and men (2010) compared with the Pacific SIDS average across multiple years



Notes: Micronesia (Federated States of), Solomon Islands, Tokelau, Tonga, Vanuatu (2010), Cook Islands, Wallis and Futuna Islands (2013), Tuvalu (2014), French Polynesia, Guam, Kiribati, Nauru, New Caledonia, Palau (2015), Marshall Islands, Niue, Northern Mariana Islands, Papua New Guinea, Samoa (2016), American Samoa, Fiji (2017).

Source: Pacific Data Hub (PDH). 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

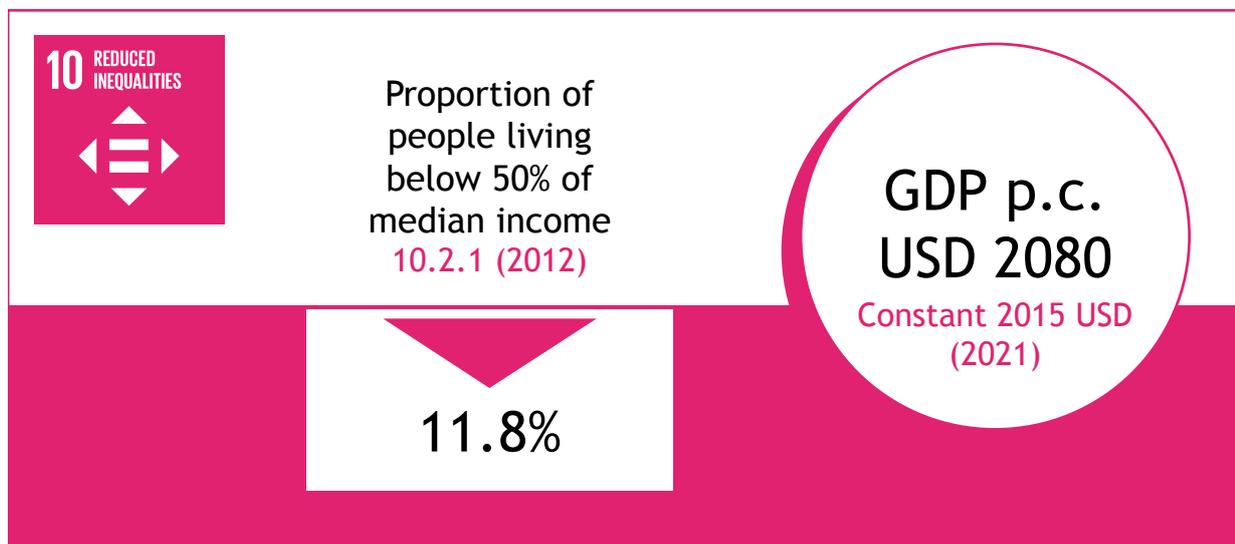
Figure 3.4: Total fertility rate (age sex adjusted birth rate) across select PICTs, including Solomon Islands



Source: Pacific Data Hub. 2022. Accessed 25 May 2022. <https://pacificdata.org/>

Social protection, as measured by the proportion of the population covered by at least one social protection floor/system (a composite proxy measure for SDG 1.3.1), averages 34 percent for Pacific SIDS, but only 1 percent in Solomon Islands. Data on households with access to basic services (SDG 1.4.1) – such as drinking water, sanitation, hygiene, energy, mobility, waste collection, health care, education and information technologies – are unavailable. Some indicators for SDG 10 (reduce inequality within and among countries) can be useful to help inform progress on SDG 2 (zero hunger). However, data on growth rates of household expenditure (SDG 10.1.1), for example, are not available, and the proportion of people living below 50 percent of median income (SDG 10.2.1) (Figure 3.5) are old and not disaggregated by disability status.

Figure 3.5: Proportion of people living below 50 percent of median income (SDG 10) and gross domestic product (GDP) per capita (USD) in Solomon Islands



Source: World Bank. 2022. *World Bank Open Data*. <https://data.worldbank.org/>. Cited 27 July 2022.

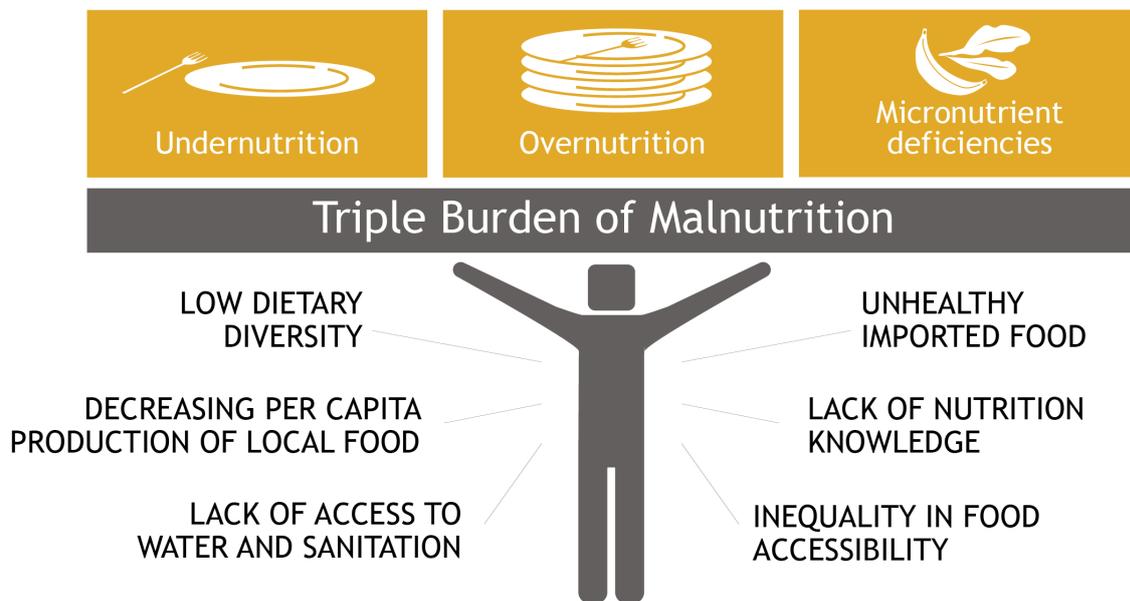
3.2 FOOD SECURITY, NUTRITION AND HEALTH

Food insecurity can result from a lack of financial and physical access to food, as well as reduced access to land, and is influenced by rapid urban population growth and changing patterns of food consumption. The Solomon Islands 2017 National Agricultural Survey reported that around 56 percent of agricultural households worry that they may run out of money and resources for food and around 41 percent could not maintain a healthy diet because they lacked the resources to do so. Over one-fifth of agricultural households had, in the previous 12 months, run out of money and resources for food (GoSI, 2019). In 2000/02, 13.5 percent of people in Solomon Islands did not have access to the amount of dietary energy required to maintain a normal, active, healthy life (SDG 2.1.1) and this prevalence increased 16.5 percent in 2018/20 (FAO *et al.*, 2021). If this trend continues, ending hunger in Solomon Islands by 2030 will remain an unreachable goal. People in Solomon Islands are also vulnerable to food insecurity from food system shocks and hazards; for example, natural disasters which limit capacity to grow food (GoSI, 2019). Women in Solomon Islands are potentially more exposed to extreme

food system shocks, given their often hidden and under-recognized role in the economy (Davila and Wilkes, 2020); for example, the number of women engaged in informal versus formal work.

Solomon Islands is experiencing the triple burden of malnutrition (undernutrition, overnutrition and micronutrient deficiencies) (Horsey *et al.*, 2019) (Figure 3.6). Some of the basic determinants of malnutrition include low dietary diversity, declining per capita agricultural and fisheries productivity, under- and overconsumption, and dietary shifts in urban areas, especially a growing preference for unhealthy imported foods (due to taste, convenience and affordability).

Figure 3.6: The triple burden of malnutrition and its drivers in Solomon Islands

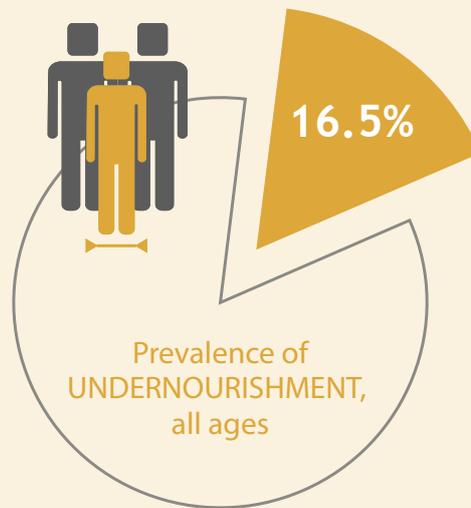


Estimates of undernourishment in Pacific SIDS are based on available sources, such as food supply data and food expenditure data, from national accounting frameworks (i.e. food balance sheets) and Household and Income Expenditure Surveys (HIESs). These data are proxies of insufficient dietary energy levels and not actual dietary measures. Undernourishment estimates by area (urban versus rural), sex, age, wealth and disability status are not available. While there remains a need for more consistent and comprehensive dietary measurements, the prevalence of undernutrition in Solomon Islands was reportedly improving, from 15 percent in 2001 to 11 percent in 2011 (Vogliano *et al.*, 2021a). However, as of 2019, the percentage of undernourishment had risen to 16.5 percent (Figure 3.7).

Approximately 3 percent of adults are underweight, comprising a higher percentage of women (2 percent) than men (1 percent) (Figure 3.8). The prevalence of overweight adults – body mass index (BMI) more than 25 – in Solomon Islands is lower than some other Pacific SIDS; however, it is increasing and is among the highest globally, at 60 percent of women and 50 percent of men (Global Nutrition Report, 2022) (Figure 3.8).

Children in Solomon Islands are vulnerable to undernutrition. The SDG target 2.2 further aims to end all forms of malnutrition by 2030, including achieving, by 2025, internationally agreed targets on stunting (SDG 2.2.1)

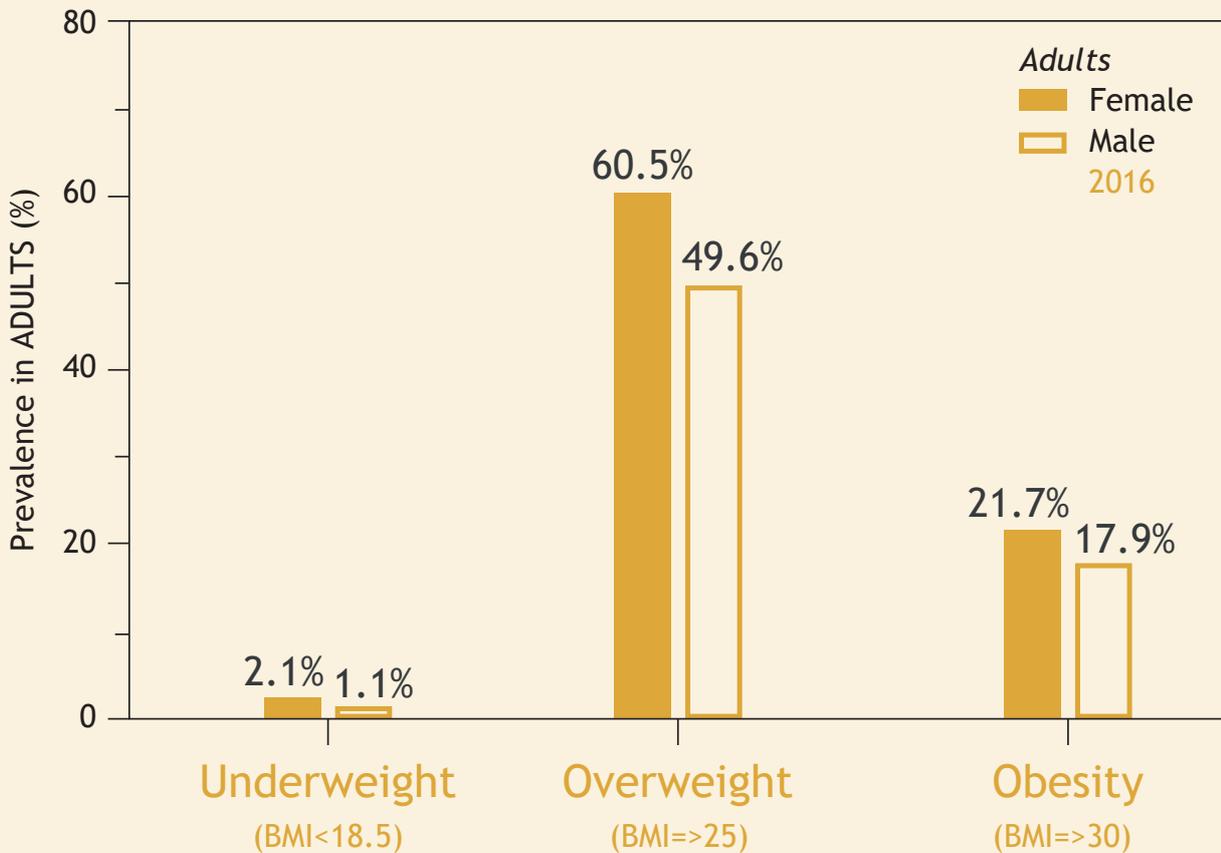
Figure 3.7: Estimated prevalence of undernourishment (habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life) (SDG 2.1.1) for 2019



SDG 2.1.1 (2019)

Source: Pacific Data Hub (PDH). 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

Figure 3.8: Prevalence of overweight, underweight and obesity in adults, Solomon Islands, 2016



Notes: Underweight is defined as a body mass index (BMI) of <math><18.5 \text{ kg/m}^2</math>, overweight as

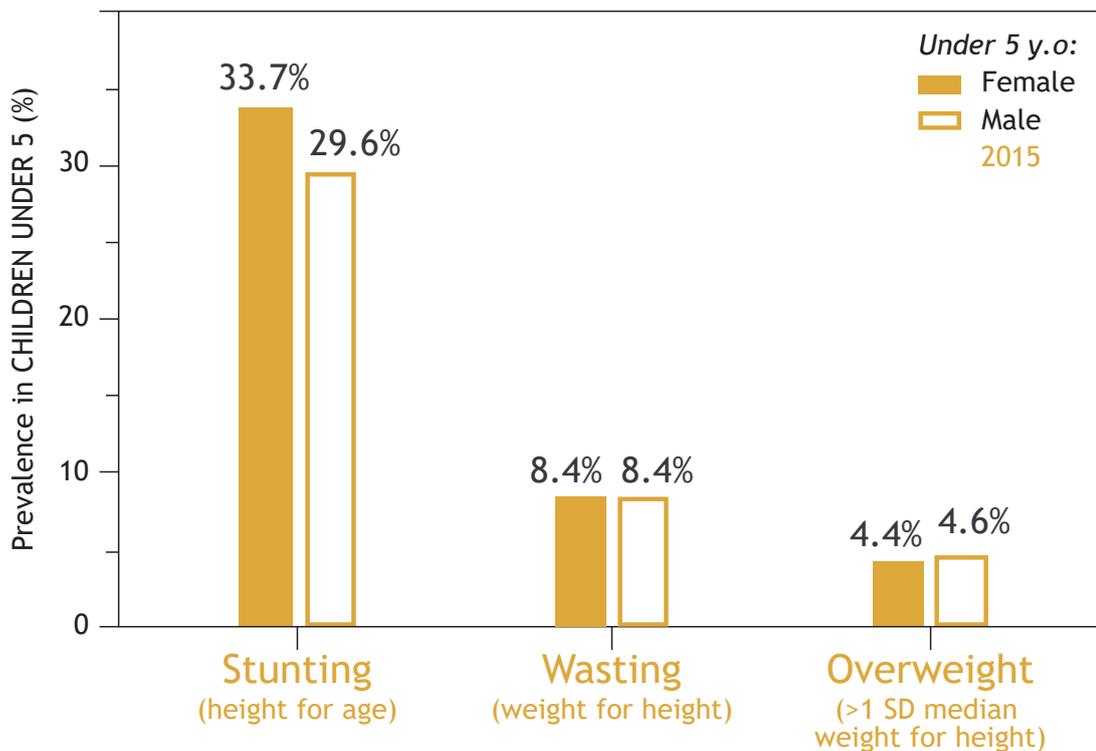
Source: Global Nutrition Report. 2022. *Country nutrition profiles: Solomon Islands*. Cited 18 June 2022. globalnutritionreport.org/resources/nutrition-profiles/oceania/melanesia/solomon-islands

and wasting and overweight (SDG 2.2.2) in children under 5 years of age. Based on latest estimates, stunting prevalence rates in children under 5 years in Solomon Islands are 33.7 percent for females and 29.6 percent for males, which have remained relatively constant since 2007, and 8.4 percent wasting for both females and males, which had increased from 2007 (Figure 3.9).

In addition to high rates of stunting and wasting among young children, the prevalence rates of overweight children under 5 years in Solomon Islands are 4.4 percent for females and 4.6 percent for males (Figure 3.9), which is low compared with some other Pacific nations, although it has increased from 2.5 percent in 2007.

For adolescents, the prevalence rates of overweight are 30 percent for females and 16.7 percent for males, with 5 percent of females obese and 3.7 percent of males (Figure 3.10). Prevalence of thinness in adolescents is low, at less than 1 percent for females and 1.5 percent for males.

Figure 3.9: Prevalence of stunting, wasting and overweight in children under 5 years, Solomon Islands, 2015.

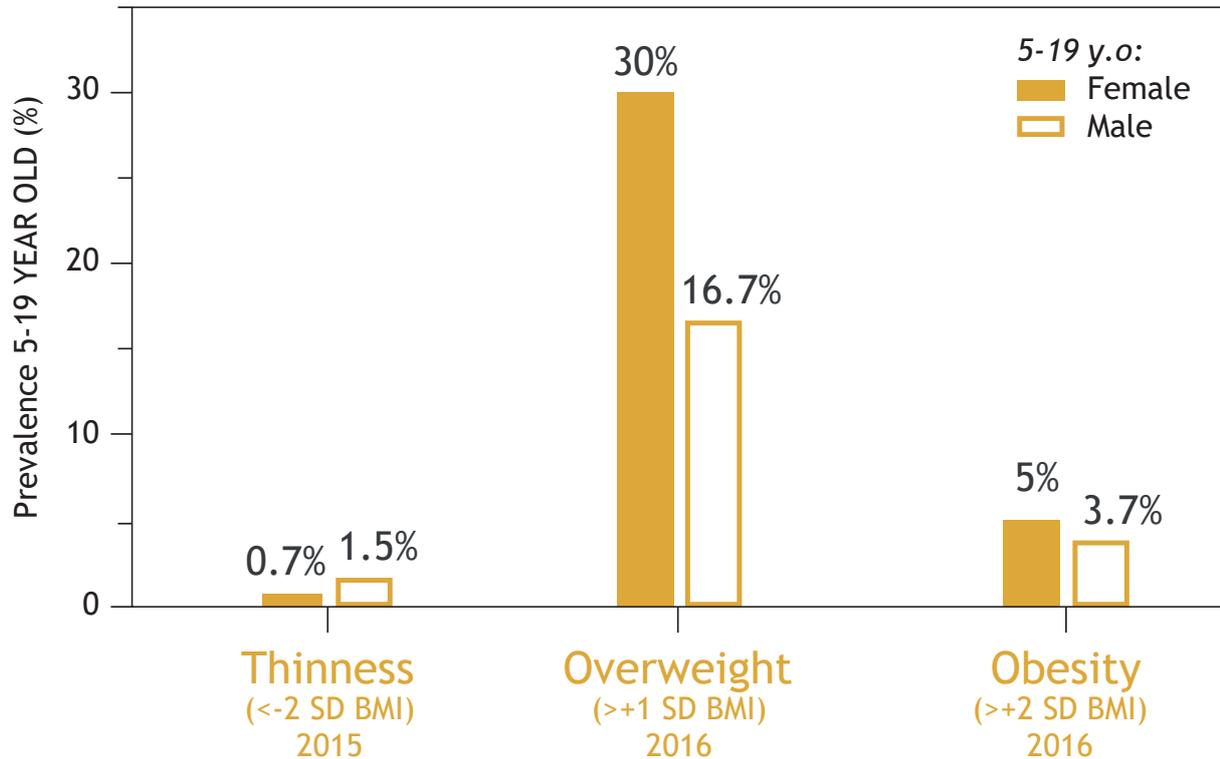


Notes: Wasting here is below minus two standard deviations (<-2 SD) from the median weight-for-height of the WHO growth reference, stunting is below minus two standard deviations (<-2 SD) from the median height-for-age of the WHO growth reference and overweight is defined as above one standard deviation (>+1 SD) from the median weight-for-height of the WHO growth reference (SDGs 2.2.1, 2.2.2).

Source: Global Nutrition Report. 2022. *Country nutrition profiles: Solomon Islands*. Cited 18 June 2022. globalnutritionreport.org/resources/nutrition-profiles/oceania/melanesia/solomon-islands

According to WHO cut-off points, anaemia rates among children in Solomon Islands are moderate to severe, as more than one in three children younger than 5 years are anaemic. The high prevalence of anaemia in women of reproductive age and during pregnancy (Figure 3.11) is of critical concern for maternal health outcomes and infant development.

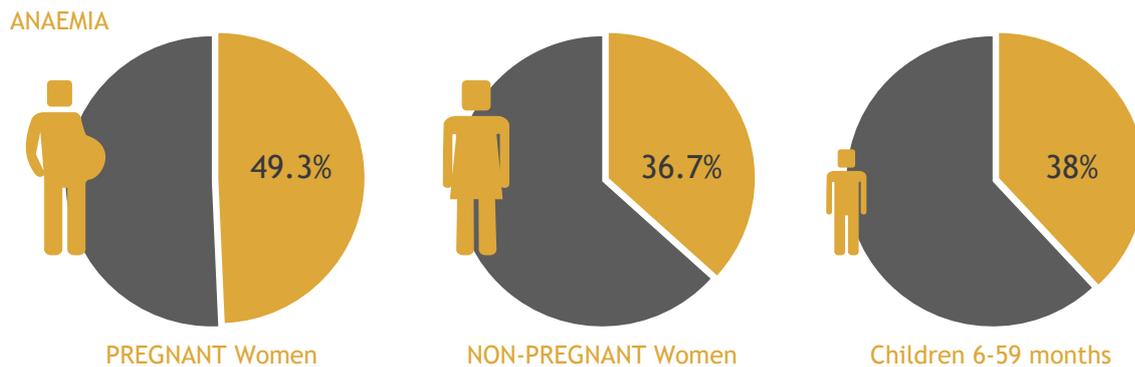
Figure 3.10: Prevalence of thinness, overweight and obesity in adolescents 5-19 years, Solomon Islands, 2015, 2016



Notes: Thinness here is below minus two standard deviation from the median BMI-for-age of the WHO growth reference, overweight as above one standard deviation, and obesity as above two.

Source: Global Nutrition Report. 2022. *Country nutrition profiles: Solomon Islands*. Cited 18 June 2022. globalnutritionreport.org/resources/nutrition-profiles/oceania/melanesia/solomon-islands

Figure 3.11: Anaemia among women of reproductive age and children 6-59 months, Solomon Islands, 2019



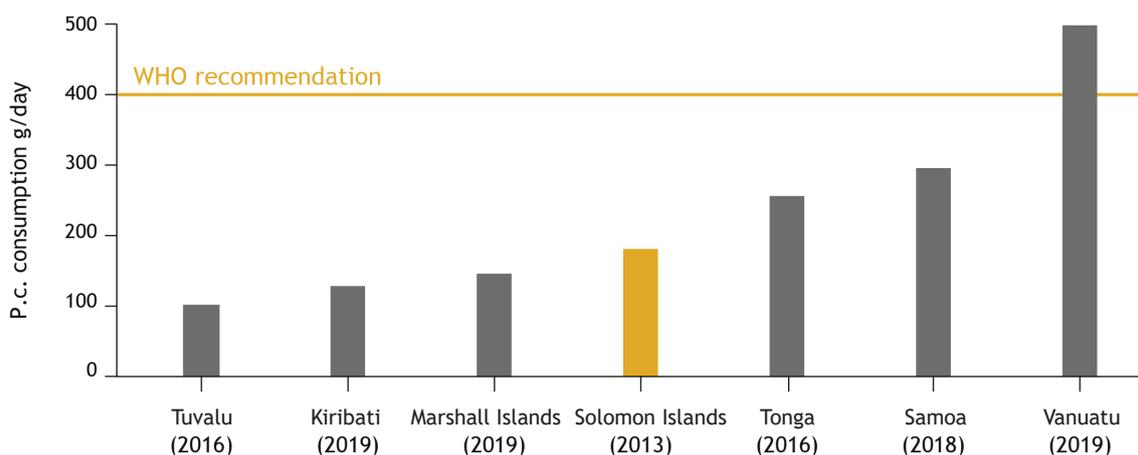
Notes: For adults, anaemia is defined as haemoglobin concentration less than 120 g/L for non-pregnant and lactating women, and less than 110 g/L for pregnant women, adjusted for altitude and smoking (SDG 2.2.3). For children aged 6-59 months, it is the percentage whose haemoglobin level is less than 110 g/L, adjusted for altitude.

Sources: Global Nutrition Report. 2022. *Country nutrition profiles: Solomon Islands*. Cited 18 June 2022. globalnutritionreport.org/resources/nutrition-profiles/oceania/melanesia/solomon-islands World Bank. 2019.

In addition to iron deficiency (the most common cause of anaemia), micronutrient deficiencies – more generally – are a burden in Solomon Islands. For example, vitamin A deficiency affects 5.2 percent of children

under 5 years. Inadequate intake of nutrient-dense foods and low diet diversity are contributing factors to inadequate micronutrient intakes, although other factors can contribute to rates of anaemia and nutrient loss, such as malaria and gastrointestinal infections. According to the most recent HIES data, Solomon Islands reported consumption of fruits and non-starchy vegetables (FNSV), an important source of micronutrients, is well below the WHO recommended daily consumption per person of 400 g/day (Figure 3.12). Reported FNSV consumption was less than half of the recommended intake. While FNSV consumed in rural areas are predominantly home produced (Section 5.2.7) and production has generally been increasing (Section 5.1.1), annual FNSV production is insufficient to supply the population with the recommended daily intake of 400 g per person per day. Per capita FNSV production has been declining since 1960 and, when combined with food loss along the supply chain and dietary transition, results in low availability of, and access to, essential nutrients for many people (see Box 3.1).

Figure 3.12: Consumption of fruits and non-starchy vegetables compared with the WHO recommendation



Source: Sharp, M.K. & Andrew, N.L. 2021. *Poverty, malnutrition and food security in Pacific Small Island Developing States*. Bangkok, FAO. [fao.org/3/cb5758en/cb5758en.pdf](https://www.fao.org/3/cb5758en/cb5758en.pdf)

BOX 3.1 – FRUITS AND NON-STARCHY VEGETABLES (FNSV)

Based on 2012 HIES data, FNSV consumption in Solomon Islands is low, with 93 percent of the population consuming less than the recommended intake of 5 serves of fruits and vegetables per day recommended by the World Health Organization. The average daily consumption is around 180 g/per capita per day (Troubat, Sharp and Andrew, 2021). In urban areas, more than 70 percent of the dietary energy coming from fruits and vegetables is acquired through cash purchases, while in rural areas, more than 80 percent of the dietary energy coming from fruits and vegetables is acquired through home production with some also acquired through gifting and from cash purchases. FNSV are more expensive in urban than rural areas (Farrell *et al.*, 2022).

Production of FNSV is increasing, but on a per capita basis it is declining. Imports of fresh and frozen vegetables and fruits have been increasing, although volumes remain small. The Ministry of Agriculture and Livestock is supporting efforts to increase production of root crops (IFAD, pers. comm.). Several opportunities exist to scale up consumption of fruits and vegetables, centred on research into crops that are climate sensitive; fruits and vegetables that are affordable, convenient and appealing; scaling up post-harvest preserving and processing; and improving access to domestic market and export opportunities.

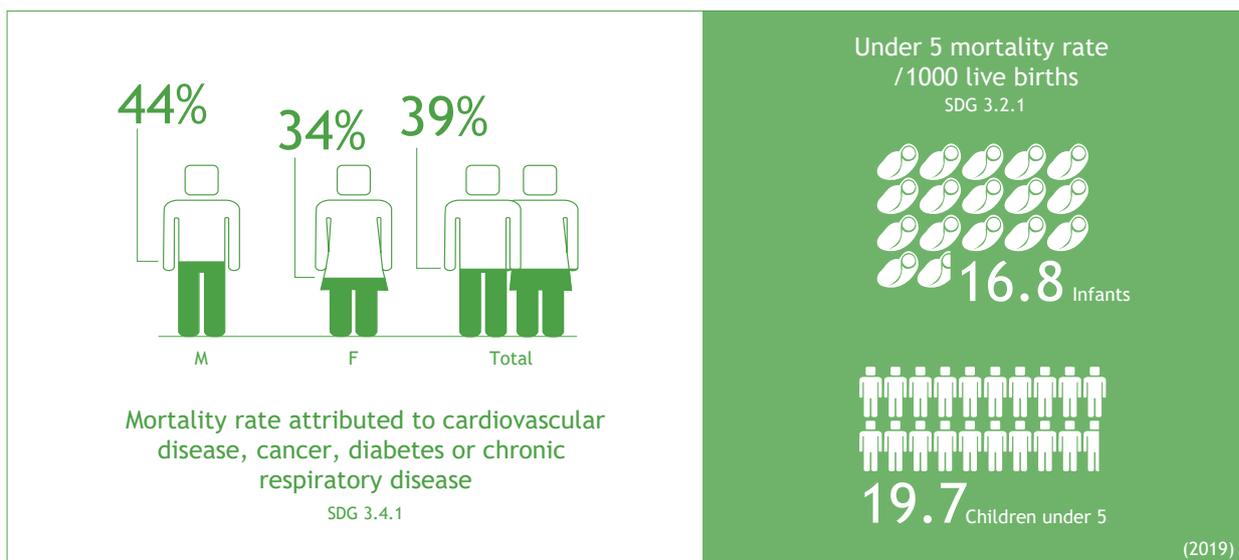
Limited access to improved drinking water and sanitation facilities continues to threaten food security and the health of populations in Solomon Islands and there is still a long way to go to achieve SDG 6 – clean water and sanitation. In Solomon Islands, 83 percent of the population has access to an improved drinking water source and 31 percent to improved sanitation. Low rates of access to improved sanitation facilities in Solomon Islands contribute to mortality rates through unsafe water, unsafe sanitation and a lack of hygiene (SDG 3.9.2). Open defecation has a prevalence of more than one-third of the population of Solomon Islands (41 percent), amounting to approximately 282 000 persons. Solomon Islands is exposed to diverse water-related hazards, such as extreme rainfall, and coastal (including tsunami and storm surge), fluvial and flash flooding. Projections suggest Solomon Islands will face particularly significant freshwater stress by 2030. This stress derives primarily from expected rates of population growth (World Bank, 2021).



Washing slippery cabbage, 2015.

Non-communicable diseases (NCDs) – including cancer, diabetes mellitus, cardiovascular diseases, digestive diseases, skin diseases, musculoskeletal diseases and congenital anomalies – are the leading cause of death, accounting for 67 percent of all deaths (World Bank, 2020). These diseases are primarily attributable to risk factors, such as age, gender and genetics, as well as to lifestyle and environmental factors, such as diet, alcohol and tobacco use, physical inactivity and exposure to pollution. Dietary-related NCDs are also on the rise in Solomon Islands. The percentage of obese adults has increased from 12 percent of women and 9 percent of men in 1999, to almost 22 percent of women and 18 percent of men in 2016 (Global Nutrition Report, 2022) (Figure 3.8). The probability of dying from cardiovascular disease, cancer, chronic respiratory disease or diabetes between the ages of 30 and 70 years is 39 percent. The rate for men (44 percent) is higher than for women (34 percent) (Figure 3.13). From the limited data available, it appears that there is high prevalence of diabetes, hypertension and high cholesterol (Figure 3.14).

Figure 3.13: NCDs and attributed mortality rates (SDG 3.4.1) and mortality rate of infants and children under 5 years (SDG 3.2.1) for 2019



Source: Pacific Data Hub (PDH). 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

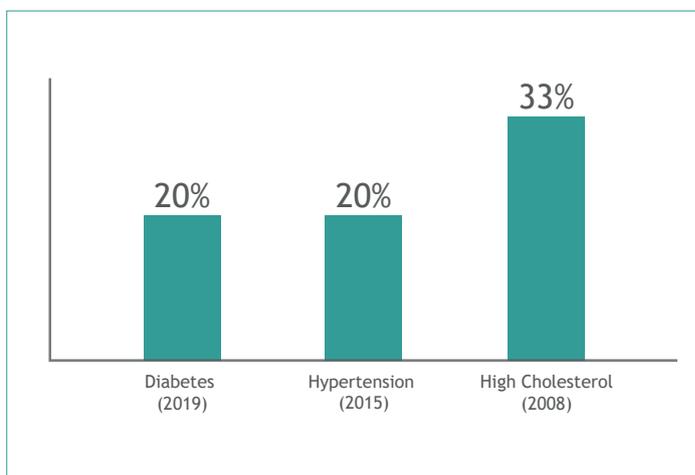


Figure 3.14: Prevalence of key NCDs.

Diabetes value is for percentage of population aged 20–79 years; hypertension is measured on two different days with the systolic blood pressure readings on both days ≥ 140 mmHg and/or the diastolic blood pressure readings on both days is ≥ 90 mmHg (percentage of population ages 30–79); high cholesterol is percentage of adults with raised total cholesterol.

Sources: World Bank. 2022. World Bank Open Data. <https://data.worldbank.org/> Cited 27 July 2022; WHO (World Health Organization). 2021. Hypertension Solomon Islands 2020 country profile. Technical document. <https://www.who.int/publications/m/item/hypertension-slb-country-profile-solomon-islands-2020>. Cited 27 July 2022; World Obesity. 2021. Report card Solomon Islands. <https://data.worldobesity.org/country/solomon-islands-195/report-card.pdf>. Cited 27 July 2022.

Vulnerable populations in Solomon Islands, including women and children, are at risk from malnutrition and associated morbidity and mortality. We acknowledge the complex dynamic of health and health systems; however, our analysis suggests that the high prevalence of morbidity and mortality in Solomon Islands is associated with dietary behaviour and nutrition, which in turn is influenced by location, poverty status and other demographic characteristics that include gender and age. For Pacific SIDS to achieve zero hunger (SDG 2) and good health and well-being (SDG 3) by 2030, it is essential that nationally representative consumption data be compiled to enable a better understanding of dietary behaviours and drivers among all populations in Pacific SIDS, including women and children.

In Solomon Islands, own production represents an important source of dietary energy, however, people are becoming increasingly dependent on purchased imported foods for dietary energy and nutrient supply, particularly in urban areas (Sharp and Andrew, 2021). Growing trade with the international market has increased the availability of energy-dense, nutrient-poor foods which have become integrated into the urban diet, and to a lesser extent the rural diet. Increased availability of these foods has led to a rise in obesity and NCDs. Increasing reliance on international markets also means the Solomon Islands food system is vulnerable to hazards such as price shocks from global food system instability as well as supply constraints from logistical shocks to international supply chains. In addition, Solomon Islands is heavily dependent on imported fuel for energy and transport. Rises in global fuel prices make transport more expensive and increase the cost of getting goods to market, particularly for the majority of the population that lives in rural areas and outer islands (Feeny *et al.*, 2013). The development bias towards Honiara means that outer regions of the country are at a considerable disadvantage, since their remoteness implies high costs of providing infrastructure and services. The resulting lack of transport and communications networks severely constrains the movement of goods and people. In rural areas, household budgets are quickly squeezed if the price of food or fuel increases suddenly (Feeny *et al.*, 2013).

3.3 GENDER EQUALITY

In Solomon Islands, rural women are more likely to be in the labour force than urban women (66 percent compared with 49 percent, respectively). Women are usually responsible for growing staple foods and raising livestock such as poultry or pigs, and for preparing food for the household. Where women have access to marketplaces, they are the dominant vendors selling agricultural produce (Asian Development Bank, 2015). While men are more likely to specialize in commercial crops for export, such as coffee, coconuts and cocoa, women and children provide labour at harvesting times. Women account for 46 percent of the economically active population engaged in agriculture (Weeratunge *et al.*, 2012). Extension services often provide less benefit to women than men, because women tend to be less educated, have less time to attend meetings or workshops, and have more limited access to financial services and credit. Government agricultural services and development projects increasingly target women farmers, but there is little collection of sex-disaggregated information to monitor



Women barter fish for root crops in the Takwa market in North Malaita, Solomon Islands, 2015.

outcomes (Asian Development Bank, 2015), including progress towards meeting SDG 5 (gender equality). In addition, these initiatives rarely take a gendered approach to addressing the causes of inequality (e.g. access to resources, services, decision-making, etc.), thereby potentially becoming an additional burden for women.

Women's economic participation and control of productive resources is constrained by lack of education, sociocultural discrimination, and lack of access to key resources such as transport and market infrastructure. Customary land laws vary from place to place but are not favourable to women. Even where matrilineal systems of land ownership exist, decision-making bodies are heavily male dominated. In addition, other aspects shape a disadvantaged position for women, such as lack of literacy, lack of financial means for travel to courts or seeking legal advice, and even lack of confidence to represent themselves.

While the gender gap in school enrolments has been narrowing overall, it persists and is particularly significant at the senior secondary level, with gross enrolment rates of 28 percent for girls and 32 percent for boys. Of those employed, women are only half as likely as men to be in paid work (26 percent of women and 51 percent of men), even in urban areas where paid work is much more common. Rural women are likely to face greater challenges in health care due to its poor quality in rural areas and limited accessibility. Their access to care is constrained by heavy workloads at home, lack of funds for transport and cultural requirements to obtain family permission. About 30 percent of rural women reported they needed permission from their husband or intimate partner to go for treatment, compared with only 17 percent of urban women (Asian Development Bank, 2015).

3.4 NATURAL RESOURCES AND CLIMATE CHANGE

3.4.1 CLIMATE CHANGE

In terms of contributions to climate change, Solomon Islands is reportedly on track or maintaining SDG achievement for SDG 13 (climate action) (Sachs *et al.*, 2022). Latest reports (2015) of greenhouse gas emissions from Solomon Islands are approximately 20 t of carbon dioxide equivalent (tCO₂e)/year, representing approximately 0.01 percent of global emissions. Solomon Islands per capita emissions of 1.2 tCO₂e/year (based on 2015 estimations) are very low. However, greenhouse gas emissions from the energy sector increased steadily between 1994 and 2010 and it is expected that Solomon Islands will experience a growth in emissions in the foreseeable future. The energy sector is the largest contributor to greenhouse gases, but it is also considered a key enabler to support efforts in poverty alleviation (SDG 1), access to better health care and education services (SDG 4) and improving the standard of living and livelihood of communities. Providing access to affordable energy (SDG 7) is challenging in Solomon Islands due to the scattered market on islands that are geographically separated by sea and with small, isolated communities (SPREP, 2019).

The Solomon Islands climate is warming, with expected warming trends in the range of 0.7 °C–2.8 °C (World Bank, 2021). Solomon Islands has significant vulnerability to extreme rainfall events, although short- and medium-term rainfall changes are difficult to detect and project into the future. The number of deaths, missing persons and directly affected persons attributed to disasters per 100 000 population (SDG 13.1.1) in Solomon Islands is 4 800/100 000 people, which is higher than the global average. In addition, there are many who are indirectly affected as a result of climate change. While farmers have been coping with changing weather patterns and climate-related extreme events for millennia, the observed increase in frequency and intensity of extreme events over the last 2 decades has caused widespread loss of crops, affecting their livelihoods (Wairiu, Lal and Iese, 2012). Recent tropical cyclones in the Pacific have also increased in intensity and destructiveness (Bird *et al.*, 2021).

3.4.2 LAND

Between 2001 and 2017, annual tree cover loss in the Solomon Islands increased dramatically, driven primarily by the logging industry (SPREP, 2019). Changes to legislation relating to land ownership in the 1980s and 1990s – such as the introduction of the *North New Georgia Timber Corporation Act 1980* and *Forest and Timber Amendment Act 1977* – saw a significant investment into the logging industry in Solomon Islands (Kabutaulaka, 2006). Despite efforts in recent years to sustainably manage logging activities, including a review of forest and timber legislation, only 3 percent of Solomon Islands land area is managed for conservation, but is not formally protected (SPREP, 2019). In 2020, only 4.6 percent of key biodiversity areas (Figure 3.15) were formally protected under the *Protected Areas Act 2010* (SPREP, 2019), severely limiting progress towards SDG 13 and SDG 15.

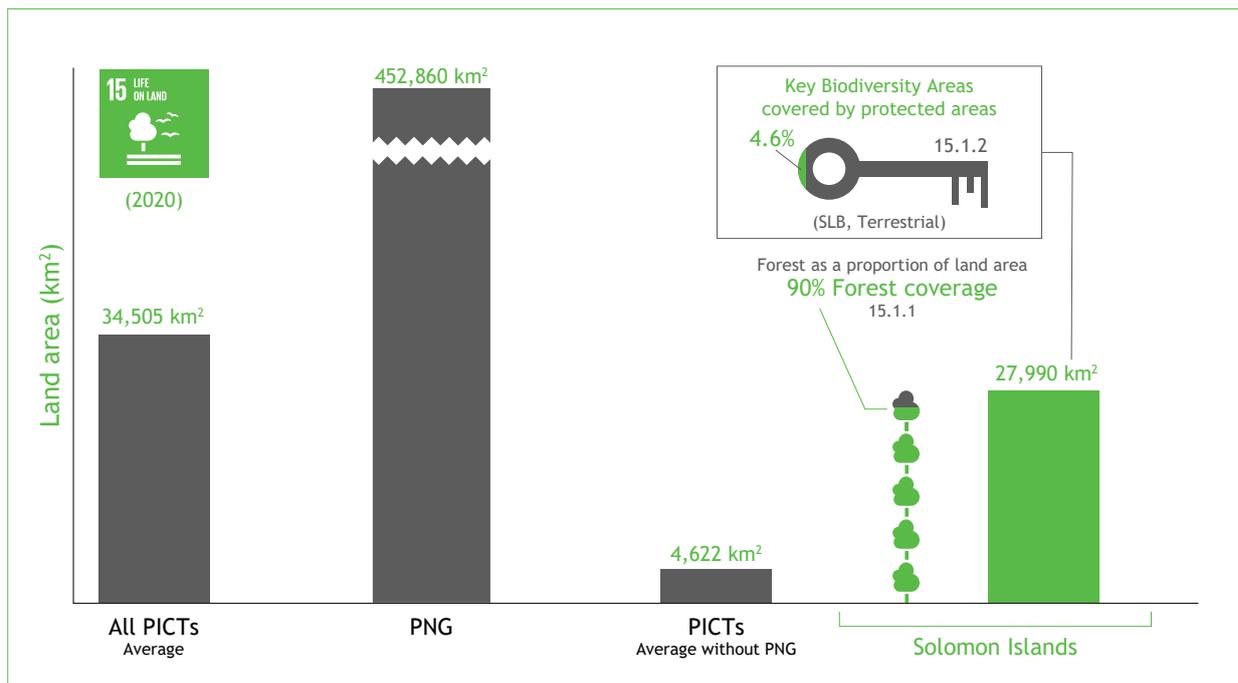
Suitable land available for agricultural use is limited in Solomon Islands due to mountain and atoll topography and weather. Agriculture holdings (farms, subsistence and commercial) have been recorded at 1 158 700 hect-

ares, accounting for around 40 percent of the total landmass of Solomon Islands (GoSI, 2019). Rising sea levels resulting from climate change is further limiting the use of land for agriculture. Soil fertility is declining due to intensive land use and deforestation, while logging-induced sedimentation is also impacting on the productivity of nearby fisheries. These challenges affect agricultural productivity and yield, and abundance and distribution of fish species, which can result in increased food prices, reliance on energy-dense, nutrient-poor imported foods, and food scarcity, which in turn negatively impact on health, food safety and nutrition.

Due to the geographical location of Solomon Islands, the food system is vulnerable to natural disasters such as cyclones, tsunamis and earthquakes. Destruction of crops and livestock resulting from increased frequency of severe weather events presents risks for the livelihood and food security of smallholder agriculture producers. Crop losses from natural disasters put pressure on domestic food production, and increase reliance on imported food from the international market to meet energy and nutrient demands.

Land ownership is of critical importance in Solomon Islands. Many economic and social developments have been blocked or demolished due to land disputes, with much of the traditional land locked under the traditional land tenure system. Customary land ownership in the Melanesian population setting is specific to each island or province. This arrangement exists throughout Solomon Islands outside of highly urbanized settings, including in coastal marine settings. While customary tenure, rather than privatized land ownership, can ensure access to land (Asian Development Bank, 2015), which is essential to food security, the system often constrains investments into agriculture by motivated farmers or entrepreneurs, limits development options for foreign investors, and disadvantages women seeking equitable access to land (GoSI, 2021).

Figure 3.15: Land area of Solomon Islands compared with all PICTS and Papua New Guinea, and the proportion of forest and protected biodiversity areas (SDG 15) for 2020



Source: Pacific Data Hub (PDH). 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

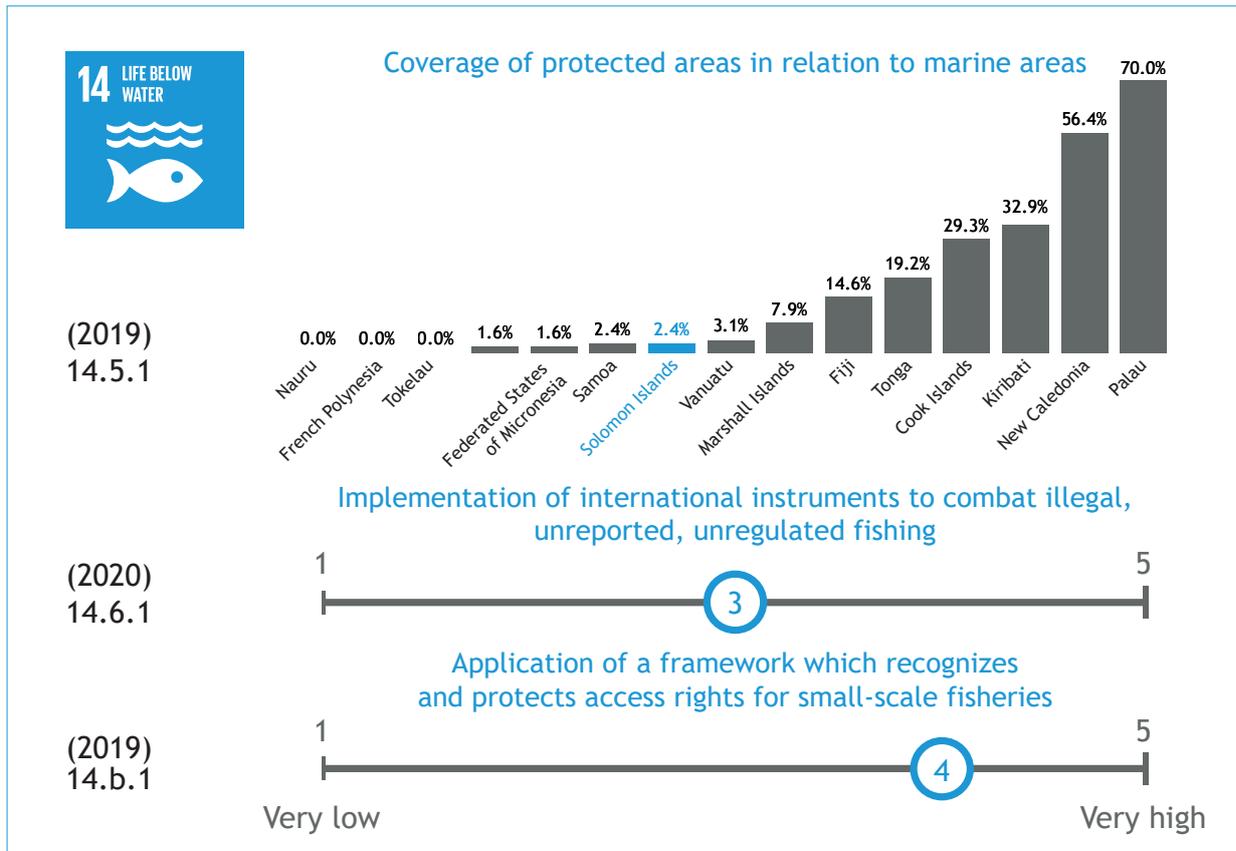
3.4.3 SEA

The fisheries sector is a major contributor to the Solomon Islands economy, and fish is one of the major sources of dietary protein (see also Box 5.2). Based on the 2012/13 HIES, Troubat, Sharp and Andrew (2021) estimated that fish and fish products contributed 33 percent of the total proteins consumed (followed by cereals at 24 percent). In terms of tonnage, the dominant fishery is the offshore pelagic sector which harvests skipjack tuna and other pelagic species. Roughly 100 000–150 000 t of fish is harvested annually by the commercial fleet (Forum Fisheries Agency, 2021). A large proportion of the catch is harvested by foreign flag vessels and directly exported, or transhipped and exported. However, around half of this fishery is caught by domestic vessels (Forum Fisheries Agency, 2021), a component of which is processed in Solomon Islands, including at the tuna-processing facility in Noro. This fishery is increasingly central to food security in Solomon Islands due to a range of factors, including declining inshore harvest and increased demand due to population growth. Fish from offshore fisheries that are consumed domestically come from a range of sources, including directly from commercial vessels, indirectly through processing facilities, and through direct harvest by small-scale fishers who target fish aggregation devices and other areas where these species are known to be in abundance.

The other dominant fishery sector is the small-scale inshore fishery. The fishery comprises individuals and small collectives fishing in coastal waters for consumption or sale in local, provincial and capital markets. Rural livelihoods are heavily concentrated in the subsistence sector, where women play a prominent role in inshore fishing and gleaning, as well as selling agricultural produce and goods produced in the home at markets or alongside roads (FAO and SPC, 2019). Approximately 75 percent of fish and invertebrates caught in Solomon Islands by this sector is used for domestic consumption by coastal communities (Basel, Goby and Johnson, 2020).

The sustainability of the fisheries sector is threatened by several factors, including: overfishing, particularly of more vulnerable species; runoff from logging and urban stormwater; and elevated sea temperatures and sea level rise (SPREP, 2019). Sea levels are rising faster in Solomon Islands than the global average (World Bank, 2021). There is already significant evidence of coastal erosion, inundation of low-lying land and probable deleterious impacts on the fishery productivity of coral reefs (Albert *et al.*, 2016). A very negative outlook is projected for the Solomon Islands coral reef fisheries sector, resulting from the various negative impacts of climate change, with potential reductions in the maximum catch of over 50 percent (Asch, Cheung and Reygondeau, 2018). These impacts represent a major threat to dietary health in poorer communities, national food security and national income. In regard to SDG 14, only 2.4 percent of all marine areas in Solomon Islands are protected (Figure 3.16). This is below the SDG 14.5 target of 10 percent marine protected areas to ensure conservation and sustainable use of marine and ocean resources. Continuing efforts into national, regional and international legal frameworks that protect and monitor integrated and sustainable ocean management, as well as conservation, adaptation, mitigation and biodiversity activities, will be critical for ensuring food and livelihood security in Solomon Islands.

Figure 3.16: Protected ocean areas in selected PICTs and fishing regulation in Solomon Islands (SDG 14)



Source: Pacific Data Hub (PDH), 2022. *PDH*. Cited 25 May 2022. <https://pacificdata.org/>

3.4.4 WASTE

While the Solomon Islands Government is working to address SDG 11 (sustainable communities), there are very little data available to report on indicators. The waste generated per person in Honiara was estimated to have increased by around 50 percent between 1990 (0.6 kg/day) and 2017 (0.89 kg/day). Growing volumes of waste will increasingly impact on the health of people, the tourism industry and the environment, if not well managed. The existing waste collection system is limited, with government waste collection accessible by <1 percent of households in rural areas and 29 percent of households in urban areas. Recycling is operated mostly by the private sector in Honiara, with a few small-scale recycling initiatives in Gizo and Noro. The 2009 census data showed that the dominant waste disposal methods across most provinces were backyard and sea dumping, with burning also prevalent (SPREP, 2019). Organic waste, including food and other materials such as vegetables, grass or leaves, is the most common waste generated across most of the provincial centres in Taro, Gizo, Noro, Munda, Buala, Auki, Guadalcanal and Honiara. The other main waste items include aluminum and steel cans, plastic bags, baby nappies, plastic bottles, cardboard, textiles, and flexibles and films (SPREP, 2019).

Post-harvest losses from horticultural markets in Honiara are relatively small (<10 percent) and even lower in roadside markets (Underhill *et al.*, 2019). Possibly as a result of the foods surveyed (e.g. pineapples, root crops),

there was little correlation between travel time and losses. In contrast the Auki market is serviced by farmers relatively close to the market, within 20 kilometres (km), and post-harvest losses are very small (<2 percent) (Underhill, 2019). While opportunity exists to turn market waste into compost or livestock feed, more focused action and research is required.

3.5 RESILIENCE AND ADAPTIVE CAPACITIES

As described above, Solomon Islands ranks very high for exposure and susceptibility to natural disasters and high for vulnerability due to its limited formal social protection and other coping capabilities (Bündnis Entwicklung Hilft, 2021). Countries with low economic capacity and income tend to rank higher in the World Risk Report for vulnerability and lower for capabilities in averting disasters. Building resilience involves reducing vulnerabilities, as a system is more resilient if it is less vulnerable, as well as building adaptive capacity (Gitz and Meybeck, 2012). The assessment of adaptive capacity in the World Risk Report (Bündnis Entwicklung Hilft, 2021) does not incorporate social networks because of insufficient availability of indicators. For example, as reported in Section 3.1, data on households with access to basic services (SDG 1.4.1), such as drinking water, sanitation, hygiene, energy, mobility, waste collection, health care, education and information technologies, are unavailable for Solomon Islands.

However, social protection is recognized as an important factor contributing to reducing a society's vulnerability to extreme natural events. Following disasters, social protection often must expand at short notice to meet increased protection needs (Bündnis Entwicklung Hilft, 2021). Informal social protection systems, which include community-based institutions such as savings groups or grain banks, are also important for reducing vulnerability, particularly in countries like Solomon Islands, where formal social protection, as measured by the proportion of the population covered by at least one social protection floor/system (a composite proxy measure for SDG 1.3.1), is only 1.1 percent.

In Solomon Islands, where rural governance institutions dominate, there are often high levels of trust between community members and customary practices that structure resource use. These characteristics encourage sustainable management of local resources (Ostrom, 1990) and underpin robust response capacities (Eriksson *et al.*, 2020). Evidence of this robustness was found in the wake of the 2002 cyclone that devastated Tikopia, where Indigenous ecological knowledge, customary land tenure and sustainable resource use were key adaptive capacities that buffered the island from the impact of the catastrophe. Evidence of ecological resilience was also found – marine and terrestrial ecosystems absorbed the cyclones impact and recovered – suggesting that resource use patterns had not undermined the regenerative capacity of local ecosystems (Lauer *et al.*, 2013). However, growing pressure on natural resources from overfishing or unregulated logging, in combination with impacts of climate change, challenges Solomon Islands society's ability to confine the impact of ecological disturbances to manageable levels. In addition, new sources of social and ecological variability from changes associated with globalization may render local adaptive capacity ineffective (Lauer *et al.*, 2013).

Social-ecological resilience is thought to be strengthened where adaptive capacities emerge from social factors such as in-depth local ecological knowledge, flexible governance systems and diverse livelihood strategies, combined with ecological factors such as high biodiversity, greater abundance of key species and a complete community structure (Berkes, Colding and Folke, eds, 2003; Hughes *et al.*, 2005). There are a range of opportunities to strengthen social-ecological resilience, and reduce vulnerability, in Solomon Islands. For the food system, approaches such as advancing traditional preservation, replication, cultivation and genetics, including in practices such as agroforestry and organic farming, have been identified as helpful for building resilience into farming systems. Investing in traditional food preservation can also act as a response measure for building community resilience (SPC, 2021).

Securing soil, food and water resources in an integrated way has been identified as core to building future resilience, as well as investment in regional public goods, including biosecurity, nutrition-centred disaster preparedness and response, and insurance (SPC, 2021). Increasing the Pacific voice in climate finance systems was identified in recent Pacific dialogues as critical to reducing vulnerability, as was ensuring data informs evidence-based policy and programmes to support the resilience of the most vulnerable people (SPC, 2021). Pathways for food system improvement and resilience are discussed in more detail in Section 11.

SECTION 4

DRIVERS OF NATIONAL FOOD SYSTEM CHANGE

Biophysical and environmental drivers, including extreme weather, have shaped the Solomon Islands food system over time. Climate change will increase the frequency and intensity of these events, with negative predictions for fisheries and crop production. Natural resources and ecosystems are being impacted by these events and by increased human use. Traditional food knowledge has evolved over generations, although it has been undervalued in the shift towards modernized food systems. A combination of traditional and scientific knowledge will provide the basis for innovation in an ongoing process of change and adaptation. The Solomon Islands food system is increasingly reliant on trade for food imports and

these products directly affect public health. Their availability is also open to disruption in global food and agriculture markets. Ongoing political instability influences the ability of food system actors to govern and shape these external drivers. Culture and social traditions are intricately linked to food in Solomon Islands and influence the way people produce, acquire and consume food. The role of women in the food system is critical, although often undervalued. Population growth has important implications for the food system, including growing urbanization, the different dynamics between urban and rural systems, and the way in which people interact with food.

The functionality of Pacific food systems and their ability to deliver healthy and sustainable diets is shaped by numerous social, economic and environmental drivers. We interpret food systems drivers as factors or processes that have the potential to influence and shape the entire food system directly, given the interconnectedness with global supply and demand, or to impact directly on aspects of food systems, such as food access and livelihoods, production and distribution, or the natural resource base (FAO, 2021). A distinction can also be made between internal and external drivers as well as “intended” or “unintended” drivers.

Improved understanding of the dynamics of food systems and their positive or negative outcomes relies on the identification of the main drivers that affect those dynamics. Understanding food systems drivers, in terms of what they are and how they function, is one of the first steps towards supporting policymakers at all levels in designing and implementing appropriate policy and interventions (Béné *et al.*, 2019). Poverty, malnutrition and food security are described herein as outcomes of food systems, but they are simultaneously interdepen-

dent and inherently part of food systems drivers themselves (Sharp and Andrew, 2021). Food systems drivers interconnect with food systems vulnerability as they can drive or create vulnerabilities. Feedbacks between drivers and impacts also exist across space and time that may also increase vulnerabilities in the future (Ericksen, 2008) and may lead to unintended consequences or outcomes (Ingram, 2011).

The drivers in Table 4.1 are organized based on the five main categories of food systems drivers that influence diets and nutrition outcomes identified by the HLPE: biophysical and environmental; knowledge, innovation and infrastructure; political and economic; sociocultural; and demographic (HLPE, 2017). The driver descriptions are based on relevant publications such as Béné *et al.* (2019) and HLPE (2017) and refined to ensure relevance to the Solomon Islands context by the report authors and participants of the workshops held in Honiara and Auki in 2021.

Table 4.1 Principal drivers of the Solomon Islands food system

Driver category	Driver description	Effects	Origin (external/internal)	Nature (unintentional/deliberate)
Biophysical & environmental	Weather-related extreme events & climate change	Increased frequency and intensity of extreme weather events and shocks to food supply chains; expected decrease in fisheries and agriculture; changed production time-frame and seasons	External	Unintentional
	Natural resources & ecosystem services	General degradation in soils and agroecological conditions; increased pests and diseases	Internal	Unintentional
Knowledge, innovation & infrastructure	Knowledge & innovations	Access to knowledge and communication; opportunities for traditional and external knowledge co-production for innovation	Internal	Deliberate
	Access to infrastructure	Limited processing; weakness in post-harvest handling and storage infrastructure; post-harvest loss and food access	Internal	Unintentional
Political & economic	Globalization & trade	Increased food imports; effect on demand for food quality and safety; price fluctuations; increased exposure to shocks, e.g. COVID-19 pandemic	External/internal	Unintentional/deliberate
	Governance of food system	Historical influences; political instability; difficulties implementing multisectoral policy; effect of interventions: government stimulus; food fortification	External/internal	Unintentional/deliberate
	Expansion & disruption in food & agriculture markets	Geographic factors, domestic versus international markets, small domestic market demand and natural disasters can disrupt growth despite sustained economic growth and market access	External/internal	Unintentional
Sociocultural	Cultures & social traditions	Awareness and understanding of diet and health issues; effect on consumption and health; important role of kin and community; social status and food	Internal	Deliberate
	Women's empowerment	Impediments to household food and nutrition security, and economic development	Internal	Unintentional/deliberate
Demographic	Urbanization	Increased demand for purchased and processed food	External	Unintentional
	Income growth & distribution	Overall demand for food; effect on demand for (non-fish) animal-based protein	Internal	Unintentional
	Population growth	Scarcity of land to grow own food; increased demand for purchased and processed food	Internal	Unintentional

Source: HLPE 2017 (High Level Panel of Experts on Food Security and Nutrition). 2017. *Nutrition and food systems: A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome*. HPLE Report 12. [fao.org/3/i7846e/i7846e.pdf](https://www.fao.org/3/i7846e/i7846e.pdf) with input from workshop participants and authors.

4.1 BIOPHYSICAL AND ENVIRONMENTAL DRIVERS

4.1.1 WEATHER-RELATED EXTREME EVENTS AND CLIMATE CHANGE

Food production is heavily dependent on natural resources and ecosystems services and, as a result, is vulnerable to impacts of weather-related events and to environmental degradation. The frequency and intensity of extreme weather events, including cyclones and more intense storms, is increasing and climate change will therefore drive changes in food systems as people start to adapt (Béné *et al.*, 2019). Increasing temperature, rising sea levels and sea temperature, and changes in precipitation are expected to cause widespread damage to crops and arable land and reduced fishery productivity in Solomon Islands (Commonwealth Marine Economies Programme, 2018). These changes will put pressure on an already fragile and stressed food system, and negatively impact on Solomon Islander livelihoods, including income, development and food and nutrition security. The impacts of severe weather events – for example, heavy rain followed by intense sun – can destroy staple crops and make growing fruits and vegetables difficult, thereby forcing people to purchase store foods (Albert *et al.*, 2020). Coral bleaching resulting from increased ocean temperature and acidification also causes damage to reef ecosystems, leading to loss of fish and marine life (Barnett, 2011; World Bank, IFC and MIGA, 2017). Declining fish numbers and population growth rates will drive changes in demand for food and the overall livelihoods of Solomon Islanders. It is estimated that coastal fisheries will not provide the fish recommended for good nutrition of growing Pacific Island populations in the future as a result of both population increase and coral reef degradation from climate change (Bell *et al.*, 2015). Climate change is also challenging traditional food knowledge in Solomon Islands through changing landscapes, weather patterns and rising sea levels (Vogliano *et al.*, 2021b).

4.1.2 NATURAL RESOURCES AND ECOSYSTEM SERVICES

The large high islands of Solomon Islands, which comprise the vast majority of the total landmass, were historically dominated by forest. Logging, while a significant source of revenue, is occurring at 12–14 times faster than what is considered sustainable (SPREP, 2019). The consequences of this unsustainable logging are both diverse and significant. Logging has caused loss of biodiversity and significant loss of topsoil and consequent sedimentation of adjacent coastal waters. It has also caused significant social issues among communities that lease their land to logging companies where the logging has degraded significant cultural sites. Logging has also diminished access to wild foods and has compromised sources of drinking water. Collectively, these negative effects have reduced food security for people impacted by logging activities (SPREP, 2019). Logging has impacted food systems through degradation of soils and agroecological conditions as well as siltation of reefs through runoff and erosion. These activities can add to the destruction of useful and edible plants and fauna in their habitats and can encourage domination of invasive species.

There are many invasive species in Solomon Islands, many of which have negative effects on ecosystems and human well-being. Invasive species damage crops, including subsistence agriculture for food security, the domestic production of cash crops for sale within and between communities, and export crops (SPREP, 2019).

Some of the current invasive pest species include the coconut rhinoceros beetle (*Oryctes rhinoceros*), giant African snail (*Lissachatina fulica*) and Asian honeybee (*Apis cerena*).

4.2 KNOWLEDGE, INNOVATION AND INFRASTRUCTURE DRIVERS

4.2.1 KNOWLEDGE AND INNOVATIONS

Traditional Indigenous knowledge forms the basis of cultural identity in Solomon Islands and is inextricably linked to the relationships between people and with the land and environment (Jansen and Tutua, 2001). The use of Indigenous knowledge allowed Solomon Islands people to maintain a reasonably high quality of life with little involvement in the cash economy. Over time, traditional knowledge has been undermined through formal education and increasing globalization. Modernization of food production through the use of agricultural machinery, chemicals and monocultures has not always been suitable to the local environment and not made available to all producers. While traditional knowledge may not provide the solutions to all modern challenges, it is often used as the basis for innovation in an ongoing process of change and adaptation (Jansen and Tutua, 2001). Appropriate technology that combines modern technology with traditional knowledge that has shaped food system over thousands of years will be critical for future resilience and adaptation. For example, workshop participants agreed that communication via mobile phone, or people having access to the internet, has improved farming practices in the rural and urban areas. Power imbalances within agriculture and markets can lead to unequal access to knowledge, resources and governance over the food and trade systems, with subsequent ecological, health and social impacts (HLPE, 2019). Access to certain forms of knowledge in Solomon Islands can also depend on an individual's social status, as well as on gender. Producers' capacity to engage in food systems that are changing as a result of population growth, climate change and international trade will be shaped by the extent to which approaches to knowledge co-production are considered (HLPE, 2019).

4.2.2 ACCESS TO INFRASTRUCTURE

Solomon Islands consists of hundreds of inhabited islands spread across vast distances, connected by financially prohibitive air transport and an outdated shipping infrastructure that services all provinces through regular shipping routes. Due to the nature of food distribution in Solomon Islands, there is limited infrastructure for appropriate storage, particularly at markets and for products that require cold chain facilities. As a result, supply chains are short and most food traded is fresh or minimally processed. Difficulties with transporting foods remains a major challenge for farmers, significantly driving post-harvest losses (Underhill, 2019). Other drivers of post-harvest losses include lack of understanding around food packing and packaging, poor market layout and limited waste management infrastructure (FAO, 2020b; Reeve *et al.*, 2020). Appropriate technological innovation and infrastructure related to post-harvest handling and storage, such as introducing stackable plastic crates on ferries, combined with training on handling and transport practices for perishable foods, represent an important opportunity to reduce post-harvest losses and improve economic benefits to farmers (Underhill, 2019). Lack of domestic processing infrastructure has led to increased demand for imported processed products which are convenient and shelf stable.

4.3 POLITICAL AND ECONOMIC DRIVERS

4.3.1 GLOBALIZATION AND TRADE

Solomon Islands has been a member of the World Trade Organization since 1996 and imports of food have increased significantly in recent decades. While the majority of imports, including rice and wheat staples, and unhealthy foods, are consumed in Honiara and provincial capitals, imported foods are increasingly available in rural settings. The growth in imported foods has led to an increased availability and accessibility of energy-dense, nutrient-poor foods (processed foods that are high in sugar and fat with little nutritional value) (Thow *et al.*, 2011). Diets high in these types of foods are linked to increased incidence of overweight and obesity and NCDs such as cardiovascular disease, diabetes and certain cancers. Liberalization of trade, which leads to increased access to more affordable imported food, has likely led to the decline in market share and profitability of smallholder farmers. It can also lead to price fluctuations. Price controls are applied in Solomon Islands to prevent price fluctuations for food security and equity purposes, but not with an explicit nutritional criteria underpinning the foods subject to price control.

4.3.2 GOVERNANCE OF FOOD SYSTEMS

An ongoing challenge at the national and provincial governance level is political instability. Ineffective government processes and procedures have brought about frustrations in the public and this has resulted in a number of riots in recent years. These events have caused major disruptions to project activities, including programmes on food systems, as well as to food availability and access during tensions. Challenges to implementing food system policy are discussed further in Part 2 of this report.

Solomon Islands adopted the Westminster system of government after independence in 1978. However, votes of no-confidence in the ruling governments have occurred frequently, as a result of members of parliament and assemblies shifting allegiances. It is not unusual to have as many as two to three changes of government within the 4-year parliamentary term. Government parties have found it difficult to win a majority of votes during national elections, which has led to coalition-type arrangements that tend to be unstable and cause disruptions to programmes, work plans and priorities.

Governance of the Solomon Islands food system is concentrated at the local level, with more than 90 percent of inshore coastal areas (land and sea) tribally owned through customary tenure as recognized in the Solomon Islands National Constitution (Wairiu, 2006; Basel, Goby and Johnson, 2020). Food system governance at the National level is evidenced through actions including the fortification of wheat with iron, zinc, thiamine, riboflavin, niacin, and folic acid, which was stipulated in the Pure Food (Food Control) Regulations 2010. The Government of Solomon Islands also developed agrifood policy measures in response to the COVID-19 pandemic, including an economic stimulus package which offered: support for economic activities and employment in rural areas; value adding and production of target products of cassava, taro, sweet potato (kumara), coconut and cocoa. The Government of Solomon Islands also sponsors a community-based Food Bank initiative that aims to cultivate cassava, sweet potato, vegetables and other crops.

4.3.3 EXPANSION AND DISRUPTION IN FOOD AND AGRICULTURE MARKETS

Despite sustained economic growth and market access in the national agriculture sector, factors such as geography, domestic versus international markets, small domestic market demand and natural disasters can disrupt this growth (FAO, 2020b). The domestic agriculture market is dominated by market stalls (such as at the Honiara Central Market), stores, roadside vendors and bakeries (Bottcher *et al.*, 2020), whereas cash crops such as coconut and palm oil are export-oriented, and sold to buyers on the international market (FAO, 2020b). Access to domestic markets is limited due to unreliable and expensive public transportation, poor storage facilities at the markets and lack of access to resources to personally transport produce to sell (Reeve *et al.*, 2020). There are no buying cooperatives at the domestic markets to facilitate production and distribution of traditional food products, which limits market access (Reeve *et al.*, 2020). Reducing post-harvest losses at markets, which is a global and national food system priority, can be achieved through increasing the number of markets, physical set-up, packaging and waste management systems (FAO, 2020b). Additionally, innovation in the fisheries sector presents an important opportunity for local producers for both domestic and international markets to address food loss; however, achieving consistent supplies of good-quality products to meet market demands remain a challenge in Solomon Islands (FAO, 2020b; Reeve *et al.*, 2020).

4.4 SOCIOCULTURAL DRIVERS

4.4.1 CULTURES AND SOCIAL TRADITIONS

The influence of social traditions, including the important role of kin and community, on food exchange and distribution are discussed in detail in Section 5.1.3. Food preference is primarily influenced by affordability, convenience, taste and culture (Bottcher *et al.*, 2019; Horsey *et al.*, 2019; Farrell *et al.*, 2021). While a traditional diet is understood to be healthier, additional factors such as cost, convenience and social status of certain foods (i.e. eating processed foods in rural areas shows social status) affect consumer consumption (Horsey *et al.*, 2019). Nutrition issues are also linked to the cultural shift in food preference, in which eating rice and noodles is becoming the new norm. Children, in particular, lack interest in consuming local foods compared with imported foods. The general trend towards a market-based economy, which creates the opportunity to access money through the sale of local commodities – also influences adults who use money to buy imported foods, which are perceived to have a higher wealth status (Albert and Bogard, 2015).

4.4.2 WOMEN'S EMPOWERMENT

Women in the Solomon Islands play a crucial role in food systems, including in agricultural production, retail and ensuring household food and nutrition security. Women contribute significantly to the agriculture sector, and it is estimated they spend three times as much time working in gardens and farms than men (Reeve *et al.*, 2020). However, women are typically marginalized when it comes to land tenure and registration, and they

face significant gender-based violence. The critical role of women in the food system is undervalued and limited because of unequal access to key resources and services and participation in decision-making processes.

A salient feature of Solomon Islands society is that markets and the marketing of foods is traditionally the domain of women (Ross, 1978). In the Honiara Central Market, market buyers are twice as likely to be female, and women comprise the majority of vendors (approximately 80 percent) (Georgeou *et al.*, 2018; Reeve *et al.*, 2020). These buyers and vendors have now been disrupted due to COVID-19-related restrictions (Farrell *et al.*, 2020). In the tuna market value chain, men disproportionately occupy positions of authority and higher paying jobs (Barclay *et al.*, 2020). Women participate in roles associated with processing, informal cooking and retail, including cleaning and preparing fish for canning (Barclay *et al.*, 2020). Despite women's participation in all stages of the food system, they are typically marginalized and often under-represented.

4.5 DEMOGRAPHIC DRIVERS

4.5.1 URBANIZATION

Growing urbanization has important implications for food systems. Although most Solomon Islanders live in rural areas, urban centres such as Honiara, Auki, Gizo and Noro are now home to 25 percent of the Solomon Islands population. Rural Solomon Islanders rely on subsistence agriculture for income and food security and produce much of their own food, while those living in urban centres produce as little as 10–15 percent of their own food (World Bank, IFC and MIGA, 2017). Urbanization has contributed to changing dietary consumption patterns, with an increased demand for heavily processed “convenience” foods, primarily instant noodles, rice, canned fish and biscuits. The changing consumption patterns and rapid urban population growth in Honiara are key threats to food and nutrition security in Solomon Islands (FAO, 2012), while food insecurity is exacerbated by the rise in the cost of living (Asian Development Bank, 2021).

4.5.2 INCOME GROWTH AND DISTRIBUTION

The distribution of income in Solomon Islands indicates a high level of income inequality, with the poorest 50 percent of households earning 19 percent of total household income (GoSI & World Bank, 2015). In contrast, the wealthiest 20 percent of households earn 45 percent of total household income. In rural areas, income from home production is dominant, whereas in urban areas, cash income is more prominent (GoSI & World Bank, 2015). In urban areas, 41 percent of males are employed in salaried jobs, compared with only 23 percent of women. Similarly, fewer women in rural areas are employed in salaried jobs (5 percent) compared with 15 percent of males (GoSI & World Bank, 2015). Along with rapid urbanization and population growth, income growth and distribution are expected to impact overall demand for food (World Bank, IFC and MIGA, 2017), making this a key food system driver. The consumption of fish per capita and limited access to arable land are likely to affect demand for animal-based protein in particular (Albert *et al.*, 2015).

4.5.3 POPULATION GROWTH

Solomon Islands' relatively small population, approximately 721 500 people, is growing rapidly at 2–3 percent/year. While the population is small, land that is suitable for both food production and habitation, with reasonable access to infrastructure and amenities, is limited. The historically low population allowed people to undertake “slash and burn” agriculture, which is no longer appropriate due to population growth and pressure on the land. The combination of steep terrain on high islands and remote atolls with poor soil quality means that the majority of the population live on the coastal fringe of high islands with access to arable land and marine resources. The largest populations are in Honiara and provincial capitals where there is infrastructure and regular transport. This rapidly growing and spatially concentrated population has resulted in fishery depletion around populated areas (Brewer *et al.*, 2009; Andrew *et al.*, 2019) and greater pressure on soil fertility. However, imports of staples and other foods has increased in conjunction with population growth. Enhancing the domestic food system to supply the growing population, through sustainable production, presents a significant opportunity to increase food sovereignty and resilience.

4.6 EVOLUTION OF THE NATIONAL FOOD SYSTEM

This section draws on text from Andrew *et al.*, 2022.

Contemporary patterns in the production, distribution and consumption of food in Solomon Islands are shaped by a complex web of processes and events. Many of these drivers of change have deep historical roots in *kastom*, and in the more recent colonial and postcolonial influences on the way Solomon Islanders interact with their food system. Biophysical drivers, both acute (e.g. cyclones and floods) and long term (e.g. El Niño-Southern Oscillation cycles and their influence on seasonal rainfall) also continue to shape how, when and where food is produced. The blending of these influences has resulted in a hybrid food system that draws on traditional foods and those imported from elsewhere.

Humans have lived in Near Oceania for perhaps 30 000 years (Matisoo-Smith *et al.*, 1998; Matisoo-Smith and Robins, 2004). A detailed discussion of historical periods of stability in food regimes and the political ecology of what will become Solomon Islands is beyond the scope of this report (see Bennett, 1987; Oliver, 1989; Campbell, 2011; Connell, 2013; Fisher, 2013, and reference therein). Nevertheless, a brief summary is necessary to provide historical context for more recent changes in agriculture, trade and public health outcomes of the contemporary food system. Three periods of relative stability in food system dynamics, or regimes, may be recognized in the long historical evolution of the Solomon Islands food system (Andrew *et al.*, 2022). Below, we provide a brief summary of two periods of relative stability and the turbulent transition from 1942 to the current regime. The contemporary food system occupies the rest of this report and is not described here except to list several notable events since independence that had, or continue to have, significant impact on the food system.

Traditional food regime (prehistory to early 1800s). During the centuries from first European contact in 1568 to the early 1800s, it seems reasonable to assume the foods produced and eaten by ‘Solomon Islanders’ would have been largely as they always were. Given the centrality of food to culture, it seems improbable that production and consumption would have changed in response to rare visits by Europeans to a few islands. An extensive literature explores the dynamics and diversity of prehistorical and early-contact diets and foodways in the Pacific (for entry points, see Thaman, 1982; Pollock, 1992; Roullier *et al.*, 2013; Iese *et al.*, 2018). Dietary staples in these times were starchy foods from roots and trees – taro, yams, breadfruit, bananas, coconuts, pandanas and, in Guam, rice. Pollock (1992) concluded starchy staples accounted for more than 80 percent of dietary energy during these times, augmented by fish, fruits, non-starchy vegetables and other foods.

Colonial food regime (early 1800s to 1942). From the beginning of the nineteenth century, contact between ‘Solomon Islands’ and the outside world accelerated quickly with the arrival of whalers, traders, missionaries and, increasingly, those seeking labour for sugar plantations in Queensland (Australia) and elsewhere. In the last decade of the nineteenth century, the British Solomon Islands Protectorate was established, beginning with the southern islands and eventually extending to all the islands of modern-day Solomon Islands by the turn of the century. The colonizers brought their food habits along with their diseases and religion. Missionaries played an important role in bringing new foods, including sheep, goats and cattle, dairy foods, cassava and *Xanthosoma* taro. Sweet potato became more important (Iese *et al.*, 2021). Agrifood systems co-evolved with systems of governance to change the regime controlling domestic production, acquisition and consumption of food. Agricultural production for domestic consumption declined as plantation agriculture disrupted traditional tenure systems and patterns of production, particularly on Guadalcanal island. This period was characterized by both a growing appetite for imported foods – Pollock’s (1992) dietary colonialism – particularly in growing urban centres, and growth of export agriculture to satisfy imperial demand for copra and cocoa. The sum of these forces resulted in the region becoming a net exporter of food (Plahe, Hawkes and Ponnampereuma, 2013).

Second World War and its aftermath (1942 to 1980s). The approximately 4 decades during and after the Second World War may be seen as a transitional era – the trauma of the war broke the self-reinforcing hegemony of colonial institutions and norms (Brown, 2020) and ushered in new political structures, new foods and further exposed the region to external drivers of change. Australia and New Zealand assumed greater roles in the region south of the equator. The American army brought the iconic tinned meat product SPAM and other processed foods to Pacific cuisine.

The Second World War saw a massive increase in infrastructure – new airfields, roads and causeways appeared, all of which improved the mobility of people and food. Kwai (2017) concludes that the concentration of military infrastructure on Guadalcanal and the establishment of Honiara as the later-to-be capital in 1952 has echoes in the social and political upheaval at the turn of the current century. From a population of just 3000 in the early 1950s, Honiara has grown to now be home for nearly a fifth of the country’s population, drawing people in from all the provinces, but particularly Malaita (Moore, 2015). This urbanization and the complex mobilities,

Wantokism, and broader social relationships between rural and urban populations have had a significant impact on Solomon Islands society (Chapman and Prothero, eds, 1985; Moore, 2015) and on the national food system.

Postwar agriculture policy focused on the development of large-scale plantation agriculture, particularly on Guadalcanal (Bourke *et al.*, 2006). Development assistance was similarly concentrated on copra, livestock and cocoa production, at the expense of subsistence agriculture that was the backbone of food security (Bourke *et al.*, 2006).

National independence brought fundamental change in the governance of the national food system in 1978. The national constitution encouraged internal migration by giving all citizens of Solomon Islands the right to move freely within the national boundaries. Many people migrated to Honiara, especially from Malaita but also from other provinces, for economic and social reasons. State-based interventions in the national food system continued apace, including subsidized food imports and state enterprises that produced or harvested food.

A significant change in the Pacific food system in this era occurred in the ocean, hidden from view and largely ignored in food systems analysis. Industrial tuna fishing re-emerged in the 1950s, mostly by Japanese fleets, and quickly spread from its Micronesian roots to the whole region, and by many countries (Gillett, 2007; Barclay, 2014). By 1980, around 90 000 t of tuna was caught in the region. Some of it was canned in the region but the greater part was transshipped to distant ports. Commercial tuna fisheries developed in the 1970s and quickly accounted for a significant proportion of national export revenue. The development of canning facilities, first in Tulagi in 1973 and later in Noro, accelerated the introduction of canned tuna into the Solomon Islands diet. Canned tuna gained prominence as a source of food throughout this period and into the present day.

Contemporary food regime (1980s to present). National independence in 1978 bookended a period of rapid change in the Solomon Islands food system. Nevertheless, although disruptive, many of the drivers and internal dynamics of the system continued into present day, particularly in subsistence-based rural communities. The remainder of this report explores many of these dynamics and drivers; here, we list ten important events that have been, or have the potential to be, influential in shaping the contemporary food system.

1. **Ethnic tensions in 1998 to 2003 and their aftermath:** The ethnic tensions at the turn of the century and long period of restoration thereafter have had a significant, albeit uneven, impact on the national food system. Various sections in this report touch on this significant and still influential period of Solomon Islands recent history.
2. **Cyclones and weather events, notably cyclones Namu (1986), Raquel (2015) and Harold (2020):** Tropical storms and cyclones cause torrential rains, strong winds, flooding and landslides. These events can devastate gardens, homes and public infrastructure, with consequent impacts on the production and distribution of food. In extreme cases, disaster relief can influence trends in the types of food consumed (e.g. rice). Although not unique to the contemporary food regime, cyclones remain a significant vulnerability. We also note that cyclones may bring significant drought-breaking rainfall,

and sedimentation from rivers onto adjacent farmlands. Major cyclones are nonetheless significant natural events in the biophysical environment.

3. **Arrival of the coconut rhinoceros beetle in 2015:** Although present in the region for more than 100 years, coconut rhinoceros beetle arrived in Guadalcanal only recently. The beetle has the potential to cause devastating damage to coconut palms in the country, threatening both the copra industry and domestic consumption of a significant food source. Other pests, such as the giant African snail (in 2016), also threaten agricultural production.
4. **COVID-19 pandemic from 2020 to the present:** The Government of Solomon Islands declared a state of emergency in March 2020 and the first case was declared in October that year. COVID-19 pandemic impacts Solomon Islands across many dimensions of the food system, including the movement of people and food, international supply chains (which are affected by a range of external factors, including the Russian Federation–Ukraine conflict), affordability and availability of food, tourism and a broad sweep of public health impacts.
5. **Diplomatic recognition of Taiwan in 1983 and switch to China in 2019:** During the decades Solomon Islands maintained diplomatic relations with Taiwan Province of China, the latter provided significant rural development and agriculture sector assistance. More controversially, it also contributed to “constituency development funds”, an aid mechanism that directed funds to members of parliament for disbursement in their electorates. The impact of the switch to China remains to be seen.
6. **International trade agreements:** Solomon Islands has been a member of the World Trade Organization since 1996. Liberalization of trade is intended to improve access to more affordable imported food, with consequences for the viability of domestic producers. Solomon Islands is also a member of two regional agreements. Products imported from other countries in the Melanesian Spearhead Group are exempt from import taxes, and Solomon Islands is a signatory to the Pacific Island Countries Trade Agreement. While the impact of these agreements, and trade liberalization policies more generally, are potentially significant, there has been inadequate analysis of their actual influence, nor on the benefits to small island states such as Solomon Islands.
7. **Climate change:** Although climate models are not sufficiently resolved to provide projections at the level of small states, there is clear consensus that climate change is, and will continue to, impact Solomon Islands. Impacts will be mediated through sea level rise (and the loss of land as well as saltwater intrusion), warming oceans and lands with consequent changes to ecology, more frequent extreme weather events, and changed regional climate regimes, notably for oceanic fish resources. Adaptation

to climate change is increasingly prioritized in development and food security narratives.

8. **Logging since the 1980s:** Unsustainable and unregulated industrial logging continues to have damaging impacts on rural communities in Solomon Islands. Government policy, both by design and omission, has focused on the purported macroeconomic benefits, while neglecting the environmental damage and systemic social conflict caused in communities. The sectoral policy discourse around logging has failed to take account of its impacts on the food system and on the lives of rural Solomon Islanders.
9. **Labour mobility and remittances:** As part of a broader Pacific trend, Solomon Islanders are increasingly taking opportunities to work overseas, particularly in Australia and New Zealand, and to send funds home. Remittances inject cash into rural households and increase their capacity to purchase foods rather than acquire them through non-cash exchange mechanisms.
10. **Urbanization:** Honiara has grown exponentially since its origins after the Second World War and continues to be a magnet for Solomon Islanders from all provinces. The continued growth of the city will have a major impact on the food system as demand from urban dwellers increases. The effectiveness of connections between rural areas and Honiara (and provincial capitals) will continue to be a major indicator of food system function.

SECTION 5

FOOD SYSTEM COMPONENTS

This section has been structured to follow contemporary food system framings and is built around key components: food supply or value chains; food environments; and food consumption (HLPE, 2017). The text draws on unpublished data and analysis from Brewer *et al.* (2022).

SECTION 5 SUMMARY

Food supply chain: Despite increased domestic food production, on a grams per capita per day basis it has declined. Around 93 percent of households cultivate crops and more than half of rural households engage in fishing. Imports of food and beverages, predominantly rice and wheat, are an increasingly dominant component of the national food system. Import diversity has grown and includes a range of highly processed goods. Food production and distribution is often a family endeavour with strong social ties. The exchange of food between producers and consumers occurs through a diverse range of pathways that often do not constitute a standard supply chain. Different forms of ‘markets’ have been established over time, with some based on exchange or financial transactions, or a combination of both. The largest formal markets are in Honiara, Gizo and Auki. The supply chains servicing these, and smaller markets, are short and depend largely on food sourced from the surrounding environment. Access to markets is limited by lack of transportation and poor infrastructure, including roads and cold storage. Most post-harvest processing in Solomon Islands is primary processing.

Food environments: The vast majority of food (75 percent by volume) is acquired directly through people growing or wild harvesting. Gardens account for the largest quantity of food acquired, followed by family and community, and sea and reefs. Central and local markets account for less than 10 percent of the total quantity of food acquired. Nearly all urban households access the formal (99 percent) and informal (98 percent) retail food environment, while nearly all rural households access the cultivated (98 percent) and wild (87 percent) food environment. Reliance on formal retail food environments is associated with lower diet quality. In contrast, reliance on cultivated, wild and kin and community food environments are significant positive predictors of diet quality. Not all households have access to a balanced diet, as fewer than one household in five consumes adequate amounts of proteins, fats and carbohydrates. Most people below the food poverty line live in rural areas and there is a degree of inequality in the distribution of dietary energy supply, particularly for vulnerable groups.

Consumer behaviour: Diets in Solomon Islands are high in energy-dense foods, such as cereals, root crops, sugar and coconut, and low in nutrient-dense

foods, such as fruits and non-starchy vegetables. Roots, tubers and plantains contribute most of the dietary energy consumed in all provinces except for Honiara, where cereals are the main food group consumed. Fish and seafood account for more than 40 percent of the proteins available for consumption. Compared with the national daily average of 2 640 kcal/capita, poor households consume less than 2 000 kcal/capita. Sweet potato (kumara), cassava and

brown coconut together contribute 50 percent of the dietary energy consumed among poor households, with per capita average quantities of 330 g/day, 200 g/day and 85 g/day, respectively. Growing urbanization is accompanied by changing patterns of food consumption. Rice, noodles, ring cake and canned tuna have become common staples in households due to convenience and taste preference and their consumption is linked to nutrition issues.

5.1 FOOD SUPPLY CHAINS

5.1.1 LOCAL FOOD PRODUCTION

Agriculture relevant to this report (excluding fisheries) has been comprehensively summarized by the multivolume *Solomon Islands Smallholder Agriculture Study* (see Bourke *et al.*, 2006) and by the Government of Solomon Islands (2019), among other sources. The agriculture and fisheries sectors in Solomon Islands are strongly linked to smallholder production and are significant to both livelihoods and the economy. In 2014 agriculture was estimated to have contributed around 16 percent to GDP while aquaculture contributed 7.3 percent (GoSI, 2019).

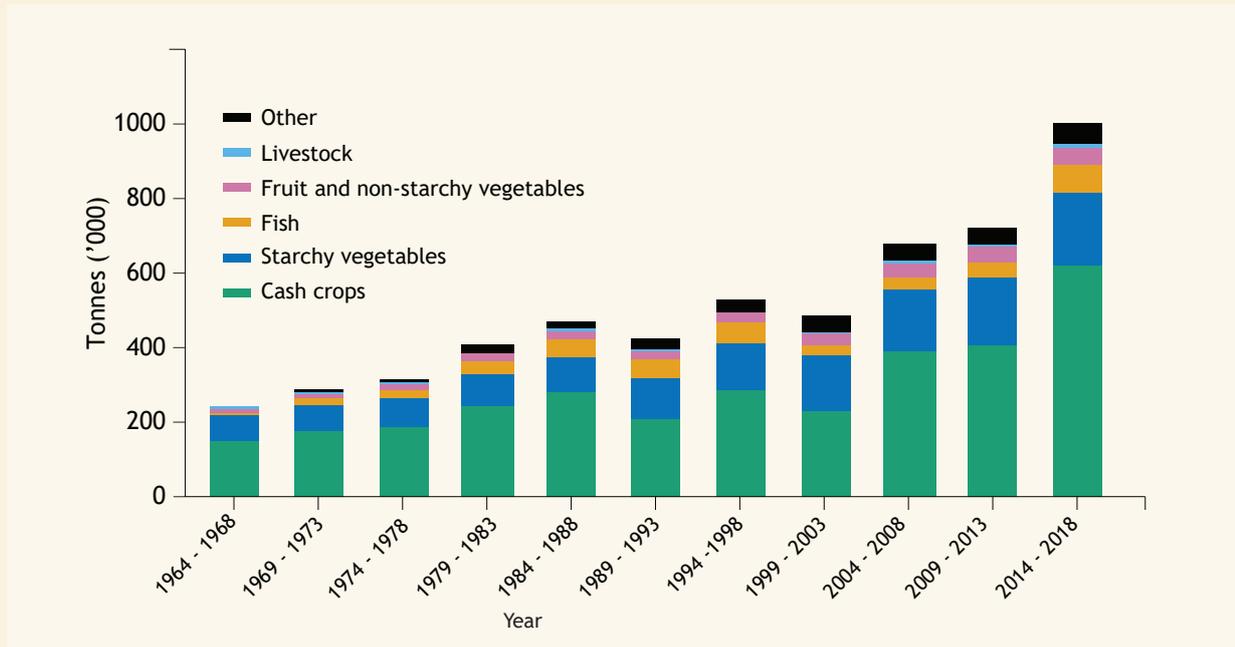
Production systems are largely characterized by small-scale holdings of less than 2 hectares (ha), cultivating a range of vegetables and fruits for sale and home consumption, including sweet potato (kumara), cassava and taro, bananas and papaya (GoSI, 2019). Livestock are held by 64 percent of rural and 15 percent of urban households principally chickens and pigs. Raising horses, cattle, goats and sheep is uncommon in Solomon Islands (GoSI, 2019).

Domestic food production overall in Solomon Islands has been increasing since the early 1960s (Figure 5.1). The majority of growth in production during the period is in oil palm, which has grown rapidly since the end of the period of tensions (1998–2003). There was, however, a drop in production of copra and oil palm (both cash crops) during the tensions. Production of starchy vegetables (root crop staples), in contrast, has been declining since the early 1960s on a grams per capita per day basis (Figure 5.2). Reduced availability of domestically produced starchy vegetables has been offset by increased imports of rice and wheat. On a per capita basis, livestock production has also been declining in Solomon Islands (Sharp and Andrew, 2021) as has production of fruits and non-starchy vegetables (FNSV). Production levels of FNSV have reduced per capita from around 220 g/day in 1960 to around 160 g/day in 2018 – well below the recommended 400 g/day.²

Approximately 63 percent of working adults in rural areas are primarily engaged in subsistence activities – including producing food for their own household consumption (World Bank, IFC and MIGA, 2017). Participation rates in household crop production in Solomon Islands is 82 percent, which is higher than the Pacific average

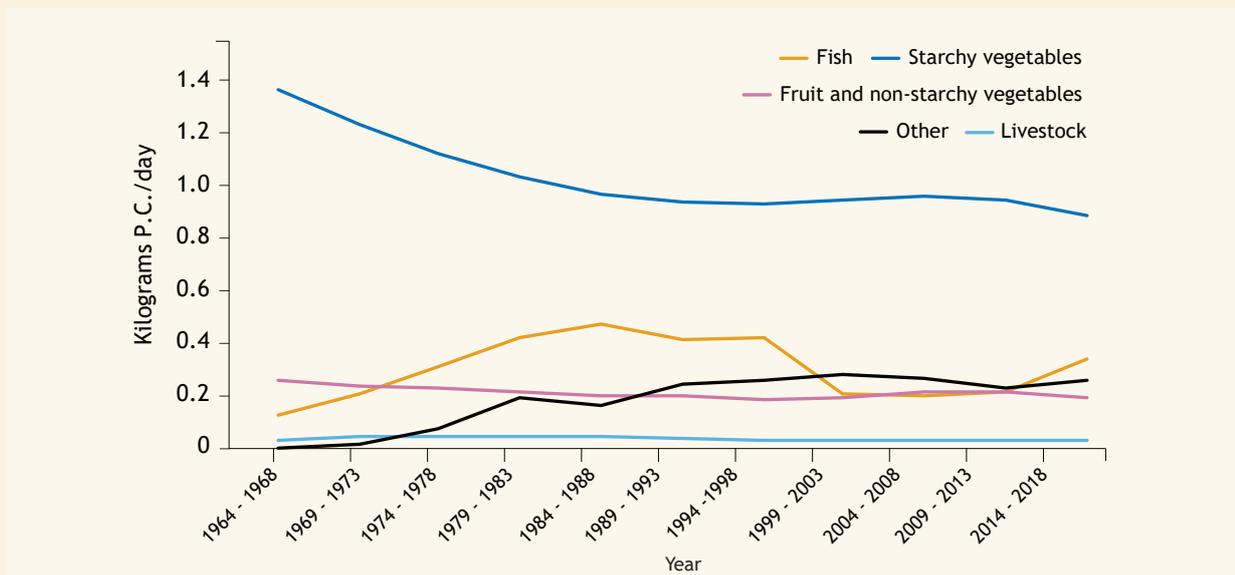
2 FAOSTAT (<https://www.fao.org/faostat/en/#data>) food balance sheets appended for the years of 1961 to 2013 and 2014 onwards, noting methodological break between 2013 and 2014.

Figure 5.1: Domestic production of food for Solomon Islands, 1964–2018



Source: Food and Agriculture Organization of the United Nations. FAOSTAT. <https://www.fao.org/faostat/en/#data/QCL>

Figure 5.2: Kilograms per capita per day domestic production of food for Solomon Islands, 1964–2018. These data do not include commercial tuna harvest



Source: Food and Agriculture Organization of the United Nations. FAOSTAT. <https://www.fao.org/faostat/en/#data/QCL>

across 12 PICTs of 43 percent. Household participation in crop production is more prominent in rural areas than urban areas. In Solomon Islands, more than three-quarters of rural households engage in crop production and more than half in fisheries activities (Sharp and Andrew, 2021).

Most supply chains in Solomon Islands are short. An estimated 39 percent of agricultural households have access to a market less than 30 minutes away (GoSI, 2019). This percentage rises dramatically to 74 percent in

Honiara, while less than 10 percent have such easy access in Central Province (GoSI, 2019). Most people walk to markets, or travel by boat or vehicle (GoSI, 2019). East Guadalcanal is the main source of produce for the Honiara Central Market (HCM), the largest fresh produce market in Solomon Islands. A large proportion of fruits, leafy greens, nuts, gourds and root vegetables in particular are produced in East Guadalcanal. West Guadalcanal also produces significant quantities of fruits, root vegetables, leafy greens and nuts. Honiara city dominates the poultry trade (Georgeou *et al.*, 2018).

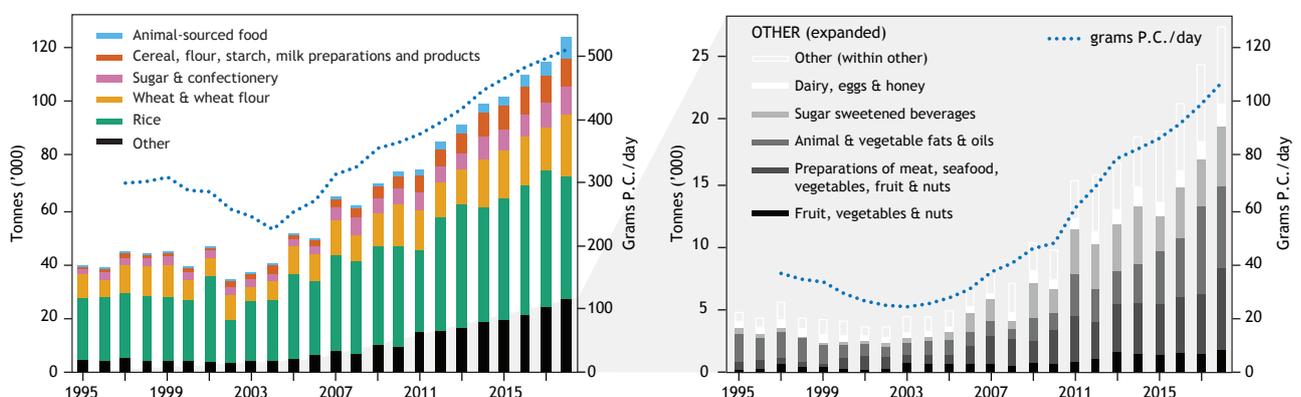
Some food commodities are produced at scale, but these are largely for export. They include copra, palm oil, palm kernel oil and meal, cocoa and coconut oil (Reeve *et al.*, 2020). Getting consistent supplies of good quality agricultural products to meet market opportunities is a key challenge (Reeve *et al.*, 2020).

5.1.2 INTERNATIONAL FOOD TRADE

Trade of food and beverages between Solomon Islands and international trade partners is increasing in dominance in the Solomon Islands food system, most notably for urban populations. Trade after the Second World War was mostly exports of cash crops, including copra, and imports of commodities, including wheat flour, canned meat, biscuits and sugar. Imports of food and beverages have increased dramatically over the past 25 years and particularly since the tensions (1998–2003; Figure 5.3). Per capita availability of food and beverages has increased from 226 g/day in 2003 to 521 g/day in 2018. The bulk of imports comprise rice, wheat and wheat flour. The majority of rice imports, in terms of tonnage, is imported from Southeast Asia (see Box 5.1), while the majority of wheat and wheat flour is imported from Australia. Through time, Solomon Islands has imported increasing quantities of more diverse foods and beverages, including highly processed goods.

Imports of healthy foods to Solomon Islands are negligible (Figure 5.4). Most imports of healthy foods come from New Zealand and Australia and are primarily onions, carrots and other vegetables. Importantly, it is likely that a large proportion of these imports are consumed in Honiara within the tourism and expatriate community, so contribution to Solomon Islands diets is difficult to discern from trade data alone.

Figure 5.3: Imports of food and beverages to Solomon Islands (1995–2018)



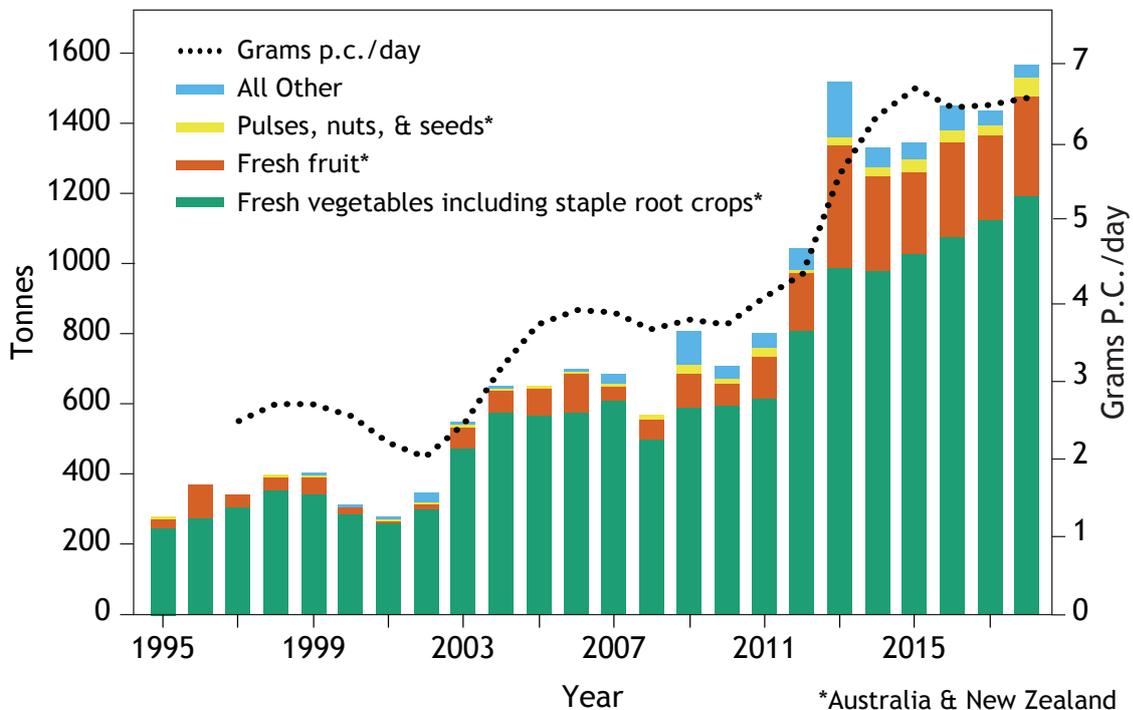
Notes: The left-hand graph shows all food and beverage imports. The right-hand graph is a detailed version of the “other” category. Whole tuna (fresh, chilled and frozen), bottled water, alcohol and tobacco products are excluded from the data used in this figure.

Source: Brewer, T.D., Andrew, N.L., Sharp, M.K., Thow, A.M., Kottage, H., Jones, S. 2022. *A method for cleaning international food trade data for regional analysis: The Pacific Food Trade Database. Version 2.1. Pacific Community working paper*. Noumea, SPC. Cited 18 June 2022. spc.int/DigitalLibrary/SDD/Events/A_method_for_cleaning_trade_data_for_regional_analysis

BOX 5.1 – RICE

Rice is consumed at least once a fortnight by households in Solomon Islands and contributes to 19 percent of the dietary energy consumed on average. In Honiara, rice contributes to more than one-third of the dietary energy consumed (Troubat, Sharp and Andrew, 2021). Rice cultivation was introduced to Central Province by the Taiwan Province of China Agricultural Mission in the early 1990s (Allen *et al.*, 2006). Approximately 27 small rice mills exist but few are operational. There is a small number of mobile micro-mills that operate throughout the country. Farmers living in provinces that do not have operational mills use these mobile micro-mills or travel to Honiara for milling. Most mills are attached to farming communities or institutions that grow rice for self-subsistence – for example, for schools to feed students – and most of the rice grown in Solomon Islands is therefore not sold at markets. Rice mills typically have low efficiency in terms of conversion rates. Rice storage at mills is unprotected, may be outdoors and is prone to pest infestation. Funding for rice production has fallen since 2008. Most rice consumed is now imported, with 36 364 t imported in 2018 and 2 814 t produced locally. Approximately 99 percent of the rice that is imported is fortified and a price difference exists between different brands of fortified rice, with non-fortified rice more expensive than fortified rice (Edie Hori, pers. comm.).

Figure 5.4: Imports of “healthy” foods to Solomon Islands divided by categories of “healthy” foods

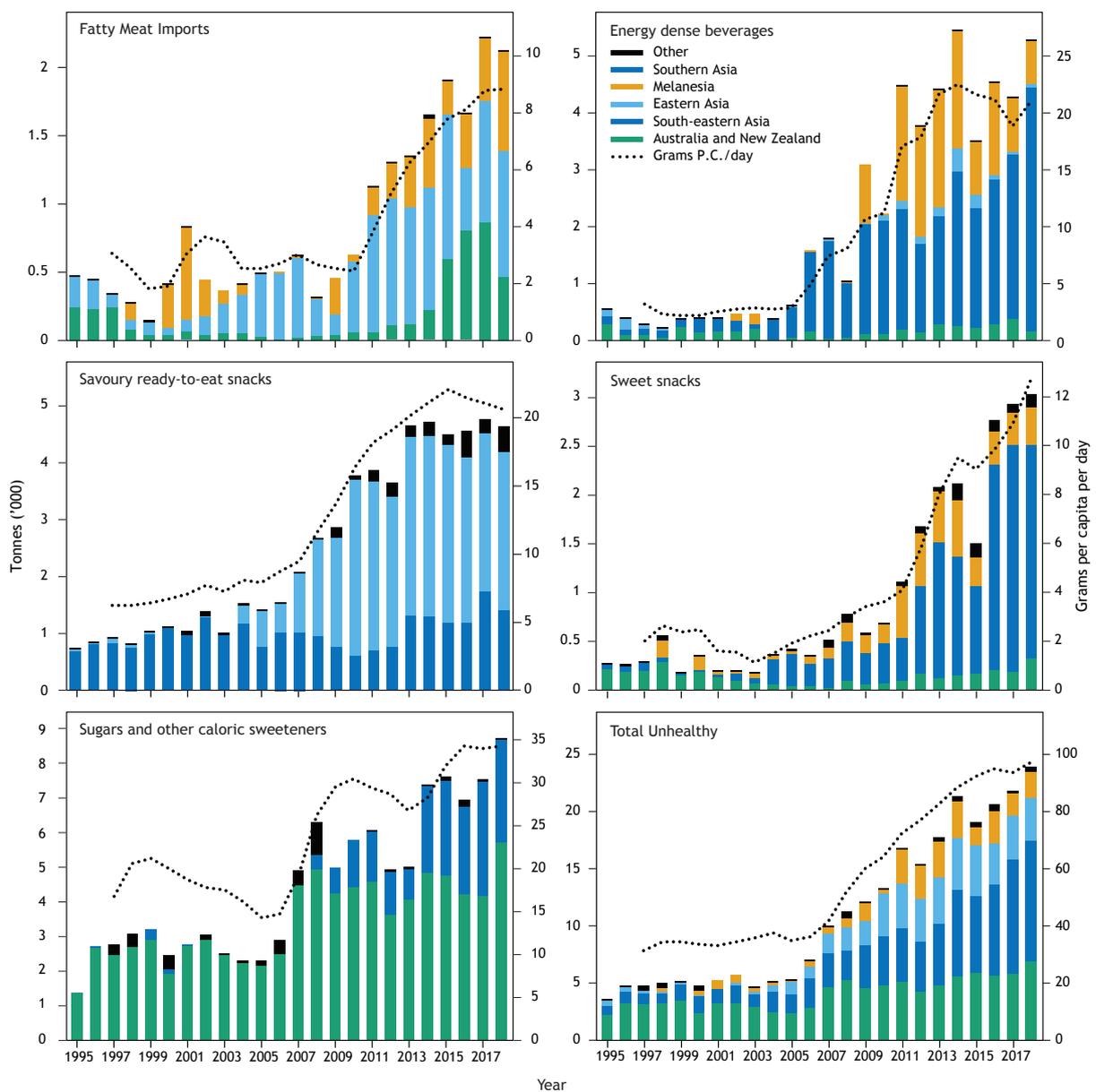


Notes: Other healthy foods, including lean meat, are not included here due to ambiguity of food definitions within the Harmonized Commodity Description and Coding System used for classification.

Source: Brewer, T.D., Andrew, N.L., Sharp, M.K., Thow, A.M., Kottage, H., Jones, S. 2022. *A method for cleaning international food trade data for regional analysis: The Pacific Food Trade Database. Version 2.1. Pacific Community working paper.* Noumea, SPC. Cited 18 June 2022. spc.int/DigitalLibrary/SDD/Events/A_method_for_cleaning_trade_data_for_regional_analysis

Imports of unhealthy foods have increased dramatically, particularly since the end of the tensions (Figure 5.5). At the turn of the century, Australia was the dominant exporter of unhealthy foods to Solomon Islands, mostly in the form of sugar. Since the tensions, imports from East and Southeast Asia have rapidly grown. Imports from Asia include carbonated sugar-sweetened beverages, instant noodles and a diverse range of other products, such as “three-in-one” tea and coffee powder mixes (which include sugar and dried milk or creamer). Growth in imports of unhealthy food and beverages from other Melanesian countries includes sugar-sweetened beverages from Papua New Guinea. The set of graphs in Figure 5.5 captures details on one of the causes of increased rates of non-communicable diseases (NCDs) in Solomon Islands.

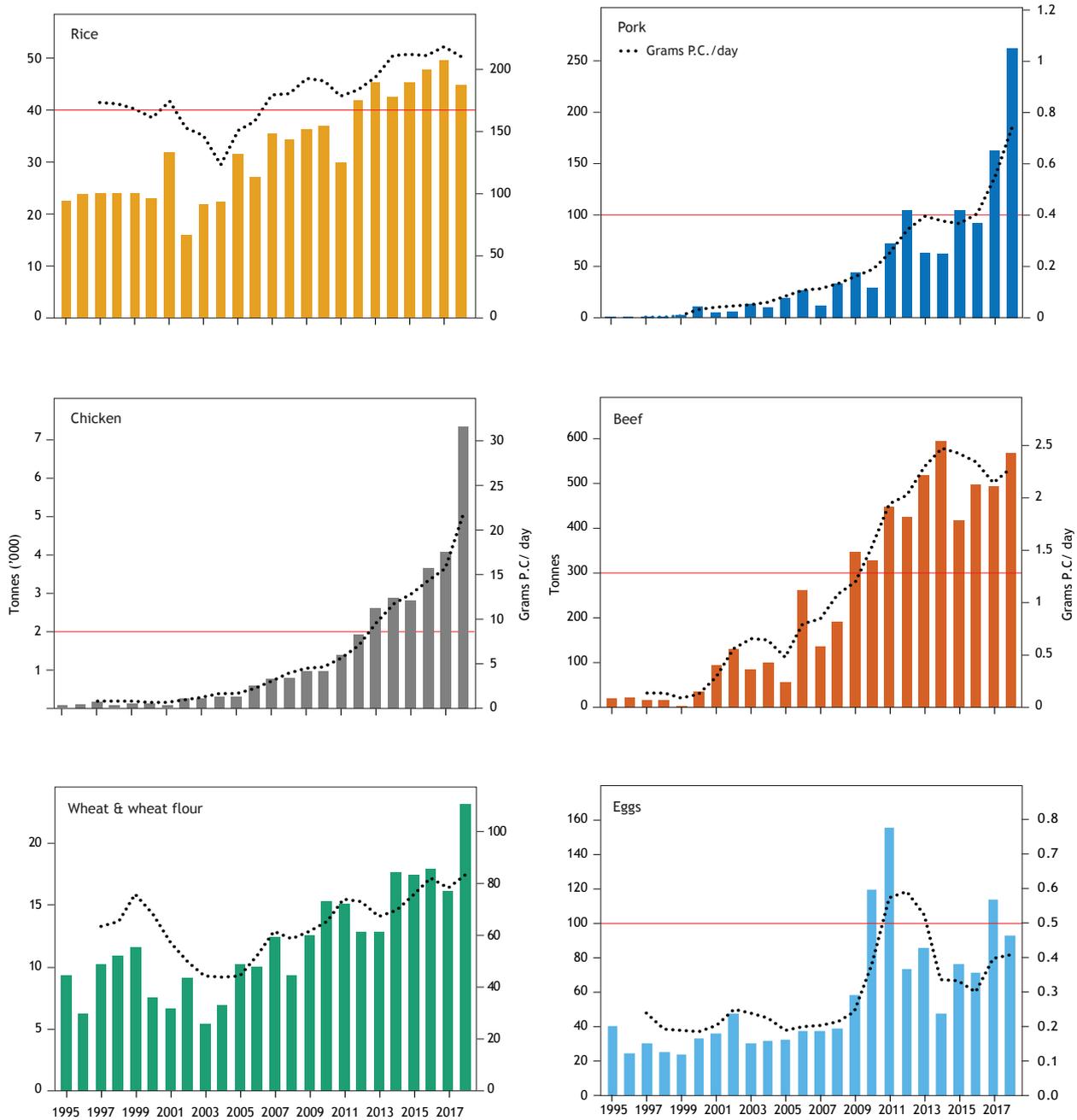
Figure 5.5: Imports of “unhealthy” foods to Solomon Islands, divided by categories of unhealthy food and exporting subregion



Source: Brewer, T.D., Andrew, N.L., Sharp, M.K., Thow, A.M., Kottage, H., Jones, S. 2022. *A method for cleaning international food trade data for regional analysis: The Pacific Food Trade Database. Version 2.1. Pacific Community working paper.* Noumea, SPC. Cited 18 June 2022. spc.int/DigitalLibrary/SDD/Events/A_method_for_cleaning_trade_data_for_regional_analysis

The Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030; GoSI, 2021) sets out some targets relating to increased exports and reduced imports. Moving towards these targets would enhance domestic production and increase food sovereignty and food security. We present time series graphs for imports included in the plan (Figure 5.6) to show the historical trend against the aspirational target for 2030.

Figure 5.6: Imports of commodities highlighted in the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030) (GoSI 2021)



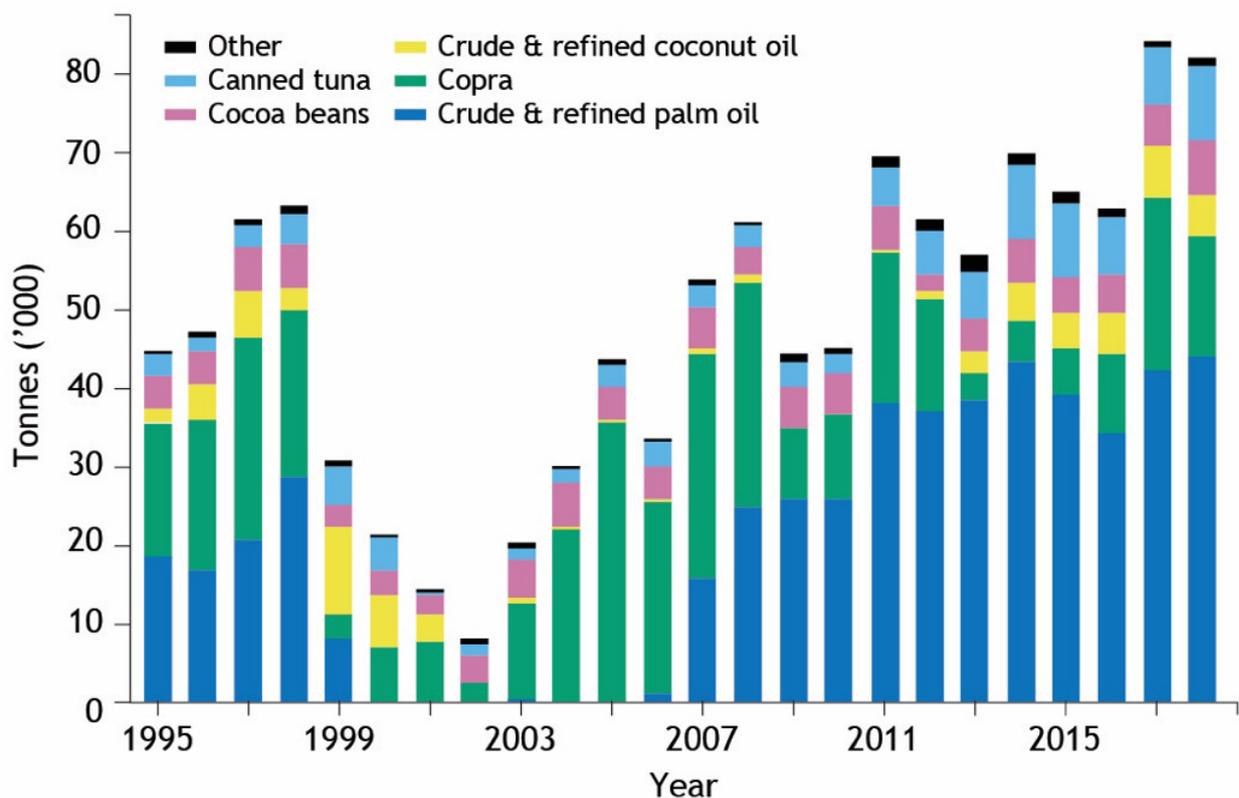
Notes: Data are presented as total annual trade flow (t) and equivalent daily grams per capita (dotted line) as a 3-point moving average. Horizontal lines represent policy targets for reduced import tonnage by 2030. Wheat and wheat flour are included for comparison but were not included within the list in the cited document.

Source: GoSI. 2021. *Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030*. Honiara, Ministry of Agriculture and Livestock, GoSI. solomons.gov.sb/wp-content/uploads/2021/10/Solomon-Islands-Agriculture-Sector-Growth-Strategy-and-Investment-Plan-ASGSIP-2021-2030_Final.pdf

The contribution of these imports to dietary intake varies dramatically across the presented commodities. The rate of increase in imports, particularly chicken and pork, shows the growth in preference of these foods and the potential for a significant increase in domestic production to reduce the expected future imports, particularly as the population grows. Trends do, however, suggest that it will be difficult to realize some of the 2030 targets. For example, the astronomical rate of increase in import of chicken suggests the aspiration of reducing imports to 2000 t by 2030 will be difficult.

Food and beverage exports from Solomon Islands (excluding whole tuna) are dominated by cash crops (Figure 5.7). Export of cash crops from Solomon Islands can be characterized as highly volatile, primarily due to global price variability and reduced production due to the tensions. Copra and copra oil have historically dominated exports, in terms of tonnage. However, there has been a dramatic increase in the production and export of palm oil in recent years. Other major exports include canned tuna, cocoa, coffee and seaweed. Canned tuna exports have been increasing through time, and now represent a significant export industry, primarily due to the success of the SolTuna cannery at Noro, in Western Province.

Figure 5.7: Food and beverage exports from Solomon Islands. Whole tuna (fresh, chilled and frozen), bottled water, alcohol and tobacco products are excluded



Source: Brewer, T.D., Andrew, N.L., Sharp, M.K., Thow, A.M., Kottage, H., Jones, S. 2022. *A method for cleaning international food trade data for regional analysis: The Pacific Food Trade Database. Version 2.1. Pacific Community working paper.* Noumea, SPC. Cited 18 June 2022. spc.int/DigitalLibrary/SDD/Events/A_method_for_cleaning_trade_data_for_regional_analysis

While export crops are typically purchased and sold to buyers through cooperatives (palm oil and coconut), domestic and traditional local foods intended for sale are largely transported and sold by farmers at provincial markets and at HCM. Export commodities such as coconut, cocoa, palm oil, coffee and kava have been priorities for agricultural development (Reeve *et al.*, 2020).

The agriculture and fisheries sectors account for 8 percent of total exports, despite employing the largest share of the population and contributing an estimated 20 percent to the GDP (WorldBank and UNICEF, 2022). Marine fish – predominantly tuna, fresh, frozen or canned – have been the most common fish exported, as well as the most consumed animal-source foods for Solomon Islanders (Reeve *et al.*, 2020) (See Box 5.2).

BOX 5.2 – FISH

Fish and seafood provide the majority of the animal protein intake in Solomon Islands. Finfish, including reef, mangrove and pelagic species, are typically important for consumption; however, the type of seafood consumed in different areas varies with the level of access to fishing grounds and distance to provincial market centres (Farmery *et al.*, 2020). High population growth rates and consumption of fish per capita and limited access to arable land are expected to lead to a shortfall in the ability of reef fisheries to supply the protein needs for the populations of several PICTs by 2030 (Albert *et al.*, 2015).

Most people live in villages where fish are acquired and consumed in complicated ways. There is great diversity of fish value chains in Solomon Islands – from direct consumption, to exchange, barter and market sales. Solomon Islands consists of a vast number of fish markets, ranging in size from HCM, which is the largest market for fresh reef fish in the country, through to small, spontaneous village markets, where fish are sold to friends and relatives (Brewer, 2011). Fishers can sell directly to value adders, such as women who barbeque or *motu* fish for local consumers, and sometimes directly to restaurants which on-sell to patrons (Brewer, 2011). Seafood trade is reliant on boats for distribution (Georgeou *et al.*, 2018) and, unlike other food vendors at HCM, men make up a larger relative proportion of total seafood vendors. Men dominate the informal ‘esky’ fish trade, while women tend to sell whole fish. Both men and women sell crabs and shellfish.

In the tuna value chain, men tend to occupy roles associated with authority and high remuneration, whereas women participate more in roles associated with processing, informal cooking, retail for domestic markets and business administration, and are less well represented in positions of high remuneration and authority (Barclay *et al.*, 2020). Solomon Islands accounts for 13 percent of total fisheries production in the Pacific. In 2018, per capita production (excluding pelagic fish and aquatic plants) for Solomon Islands amounted to 38 kg/year (Sharp and Andrew, 2021). However, much of this fish is tuna, which is exported.

5.1.3 NATIONAL-LEVEL FOOD DISTRIBUTION AND EXCHANGE

It is common for food system frameworks to include supply or value chains, and their activities, as the key component for linking producers with consumers (see, for example, Ingram, 2011; FAO, 2018; Fanzo *et al.*, 2020). However, distribution and acquisition of foods in Solomon Islands must be understood in the context of a predominantly agricultural and rural society. Food is produced almost everywhere: 93 percent of households cultivate crops (GoSI, 2019). Food production and marketing are often family endeavours, with strong social ties supporting sharing with kin and community. Food is produced primarily to provide for immediate family and community. Food is typically only sent to market once social obligations have been satisfied, rather than being produced primarily for profit (Bryceson and Ross, 2020a), as is the case with most westernized food systems. The distribution of food between producers and consumers occurs through a diverse range of pathways that often do not constitute standard supply chains. Understanding these diverse pathways in terms of how food physically moves within them, as well as who is involved and the drivers behind their decision-making, is essential for guiding further investment and incentivizing – including through policy intervention – to support production, distribution, acquisition and consumption of local foods that deliver health, environmental and economic benefits.

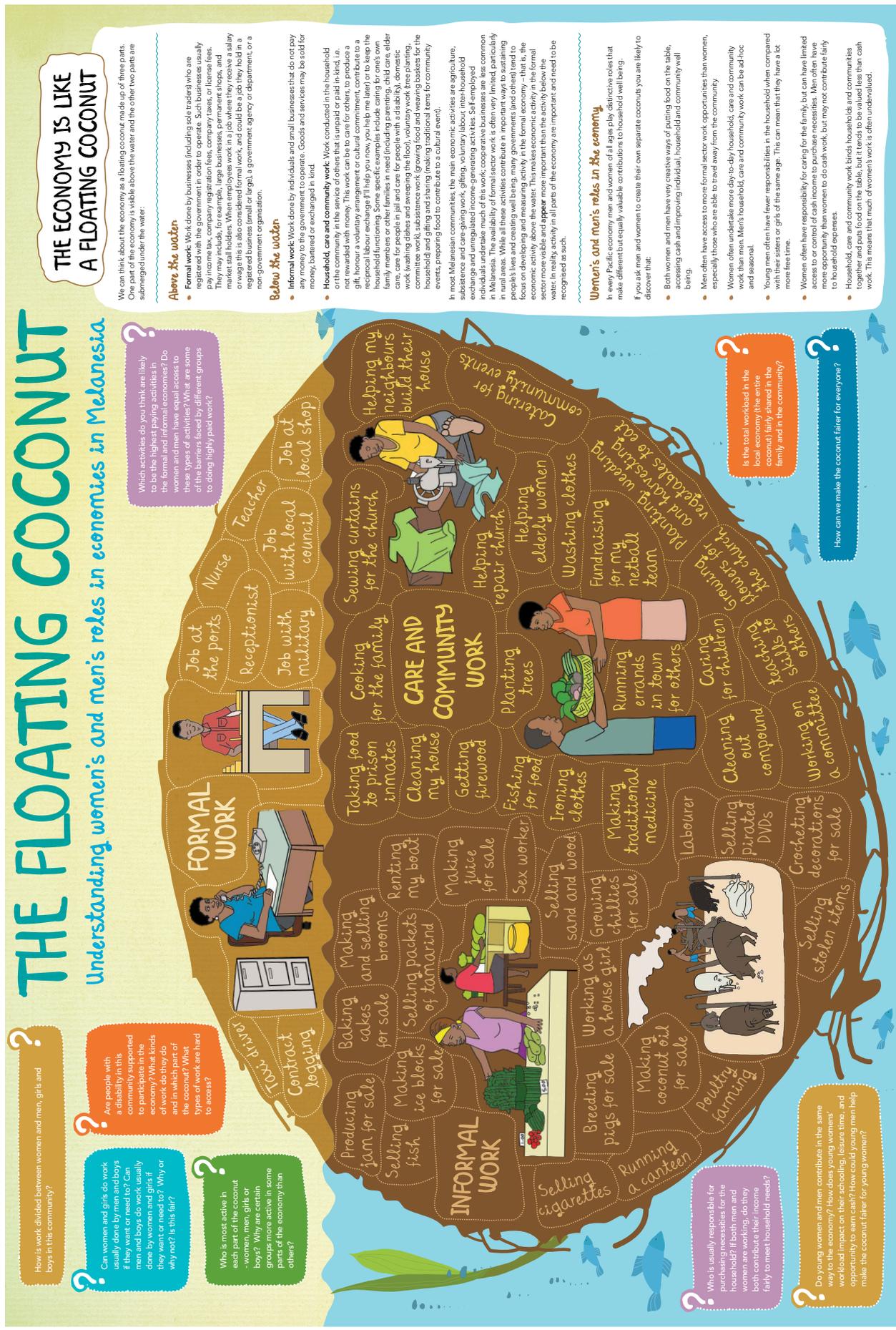
In this report, we use two categories of value chains, described by Bryceson and Ross (2020b) to help separate our descriptions of food distribution and exchange. These categories are ‘standard market value chain’ and ‘community/livelihood value chain’. In the dispersed and rural agricultural society of Solomon Islands, food production and distribution can be likened to the ‘floating coconut’ metaphor (Figure 5.8). The floating coconut, originally developed to illustrate formal, non-formal and gendered dimensions of community economies, is transferable to food systems. In this metaphor, the ‘standard market value chain’ is the top of the floating coconut that is most visible to international programmes for development and research, although the rural practices around ‘community/livelihood value chains’ are far more prevalent as a feature in people’s daily lives (Bogard *et al.*, 2021; see Section 5.2). At provincial market centres, provincial governments can earn revenue from stall fees and they are an important formal economic space for transactions over food from the sea and garden to urban consumers – connecting rural sources of supply with urban areas of demand. But most people in the predominantly rural society of Solomon Islands live far away from such markets and 80 percent of people work in the informal economy (ILO, 2017).

COMMUNITY/LIVELIHOOD VALUE CHAINS

While imported foods, such as rice and wheat, are becoming more common components of Solomon Islands diets, predominantly in urban areas, most food (75 percent by volume) is acquired directly through people growing or wild harvesting (see Section 5.2). Home gardening is dominated by roots, tubers and plantains. This food does not enter a value chain but is consumed where it is produced, or nearby. Improving the food outcomes of Solomon Islanders in rural areas requires efforts to consider social and cultural values linked to these pathways and investment in these local food systems, rather than a sole focus on markets and financial exchanges. Food that is grown or wild harvested can be consumed directly or shared among kin and community.

Figure 5.8.

The 'floating coconut' concept conceives the economy in three parts: formal, informal and non-cash activities, where the formal element of the economy is most visible above the surface. The Solomon Islands food system can be thought of as analogous to this framing of the economic system, with formal marketplaces and standard market value chains most visible in development, support and research.



THE ECONOMY IS LIKE A FLOATING COCONUT

We can think about the economy as a floating coconut made up of three parts. The part of the economy most visible above the water and the other two parts are submerged under the water.

Above the water

Formal work: Work done by businesses (including sole traders) who are registered with the government in order to operate. Such businesses usually pay income tax, company registration fees, company taxes, or license fees. They may include, for example, large businesses, permanent shops, and market stall holders. When employees work in a job where they receive a salary or wage this is also considered formal work, and could be a job they hold in a registered business (small or large), a government agency or department, or a non-government organisation.

Below the water

Informal work: Work done by individuals and small businesses that do not pay any money to the government to operate. Goods and services may be sold for money, bartered or exchanged in kind.

Household, care and community work: Work conducted in the household that is not rewarded with money. This work can be done for others, to produce a gift, honour a voluntary arrangement or cultural commitment, contribute to a reciprocal labour exchange (it helps you now, you help me later) or to keep the household functioning. Some specific examples include caring for one's own family members or other families in need (including parenting, child care, elder care, care for people in jail and care for people with a disability), domestic work (washing clothes and sweeping the floor), voluntary work (tree planting, housework, and other household tasks), and preparing food for the household and offering and sharing traditional items for community events, preparing food to contribute to a cultural event.

In most Melanesian communities, the main economic activities are agriculture, fishing, and small business. These activities are often conducted in the household and exchange and unregulated income-generating activities. Self-employed individuals undertake much of this work, cooperative businesses are less common in Melanesia. The availability of formal sector work is often very limited, particularly in rural areas. While all these activities contribute in important ways to sustaining people's lives and creating well-being, many governments (and others) tend to focus on developing and measuring activity in the formal economy – that is, the economic activity above the water. This makes economic activity in the formal sector more visible and appear more important than the activity below the water, which makes up nearly all parts of the economy and is important and needs to be recognised as such.

Women's and men's roles in the economy

In every Pacific economy, men and women of all ages play distinctive roles that make different but equally valuable contributions to household well-being. If you ask men and women to create their own separate coconuts you are likely to discover that:

- Both women and men have very creative ways of putting food on the table, accessing cash and improving individual, household and community well-being.
- Men often have access to more formal sector work opportunities than women, especially those who are able to travel away from the community.
- Women often undertake more day-to-day household, care and community work than men. Men's household, care and community work can be ad-hoc and seasonal.
- Young men often have fewer responsibilities in the household when compared with their sisters or girls of the same age. This can mean that they have a lot more free time.
- Women often have responsibility for caring for the family, but can often have access to or control of cash income to purchase necessities. Men often have more opportunity than women to do cash work, but may not contribute fairly to household expenses.
- Household, care and community work binds households and communities together and puts food on the table, but it tends to be valued less than cash work. This means that much of women's work is often undervalued.

In Solomon Islands society, food and land are owned collectively and people are socially required to share food and housing with their extended kin, or *wantok* (Andersen *et al.*, 2013). These relationships and connections have implications for the way resources are distributed and strong support for the extended family or community is thought to have contributed to alleviating extreme poverty (Yari, 2003). Relationships between kin and community are central to Pacific Island food systems; in particular, the distinctive ways that consumers participate in the food system that may bypass, or occur in addition to, economic channels, such as sharing, gifting and bartering.

Food shared with kin and community can also be sourced through more formal exchange. Different forms of “markets” have been established over time through regular exchange based on “complementary communities” and scarcities (Ross, 1978). In Malaita, for example, landless people from the sea (*wane asi*) have traditionally sought building materials and foods from the people in the forested hinterlands (*wane tolo*) in exchange for fish and products from the sea (e.g. shells and shell money; Hviding, 2018; van der Ploeg *et al.*, 2020). These exchanges are based on reciprocity to the point where “bush markets” have a deep significance in society. These patterns recur in practices of production, specialization and human geography; for example, shell money from Langalanga Lagoon and rabbitfish from Lau Lagoon.

The cash economy has traditionally been small in Solomon Islands, particularly for people living in rural areas (Barclay *et al.*, 2020). Some markets that have developed based on exchange now also accommodate financial transactions. Takwa market, for example, is likely hundreds of years old and about 2000 vendors still access it today, with people from different places bringing a variety of products. These “bush markets” are varied and new practices, such as fundraisers, walkabout marketing, school and sports event sales, and roadside sales, provide more contemporary forms of exchange, livelihood and social reproduction. In addition, most markets are not active daily – there will be a Saturday market, for example.

STANDARD MARKET VALUE CHAIN

Formal and informal markets exist throughout Solomon Islands. As described in Section 5.2, in a market or retail setting, formality and informality are differentiated by the presence (or absence) of formal governance structures (Downs *et al.*, 2020). However, the distinction is often not clear-cut and operates along a continuum rather than a dichotomy. The largest formal markets are HCM and Auki markets. The supply chains servicing these, and smaller markets, are often short (i.e. at the provincial level), and depend on the surrounding environment; that is, what can be derived from the land and sea, and what food is surplus once social obligations have been fulfilled. These markets are discussed in more detail below with reference to vendors and so forth. Presented below is associated information on value chains leading to market.

The growing urban population has seen a shift in financial exchanges, as when land is not available, there becomes a reliance on the cash economy. This shift to a cash income has impacted on the nature and focus of garden food production, as well as societal and cultural shifts in the way different foods (e.g. wild leafy greens) are valued (Albert *et al.*, 2020). Societal changes such as urbanization can also impact nutritional outcomes of the food system. For instance, large households in urban areas often comprise *wantok* who have moved from rural areas to participate in the cash economy. In these households, a disconnection with land available to grow



Takwa market, North Malaita, 2022.

fresh food, coupled with a need for sufficient food to feed extended kin, requires preparing high-volume, low-cost meals. This need often means low-nutrient, high-volume foods like rice are sought after (e.g. Andersen *et al.*, 2013; Farrell *et al.*, 2021).

For those people who produce food for markets – or even market in rural areas; for example, at weekend sports events – poor infrastructure is seen as the major barrier to develop safe food distribution systems and develop rural food economies (World Bank, 2018). The country is an archipelago of islands that relies on infrequent ships, and islands often have no, or poor, roads. This leads to high transportation costs and contributes to high post-harvest losses because of the resulting delays in produce getting to markets.

Market access differs significantly for domestic versus export-oriented production in Solomon Islands. There are no buying cooperatives facilitating the production and distribution of traditional food products and achieving consistent supplies of good-quality products to meet market opportunities and local demands is challenging (Reeve *et al.*, 2020). Most farmers bring their produce to market on foot, or by bus (GoSI, 2019; Reeve *et al.*, 2020). Beans and legumes, fruits, gourds, leafy greens and root vegetables are mostly moved by truck. Boats are used for both nuts and seafood, while poultry is mostly brought to HCM via taxi or car (Georgeou *et al.*, 2018).

For many farmers, access to markets is limited by expensive, unreliable or non-existent public transportation, and they have no capacity to transport in large volumes (Reeve *et al.*, 2020). Freight charges and modes of and access to transport require further investigation to ascertain their effects on the cost of produce at HCM, and on HCM vendor profits (Georgeou *et al.*, 2018).



A woman carries tuna purchased at Auki market, Malaita Province, Solomon Islands, 2015.

Farming families in Central and Guadalcanal provinces report being the furthest away from markets, resulting in their having to pay an average of Solomon Island dollars (SBD) 297 (USD 36) per household per week to get to markets (GoSI, 2019). Extended time spent away from home for the approximately 80 percent of women vendors travelling to markets places additional strain on rural families to provide child care and tend gardens in their absence. Furthermore, poor weather and extreme climatic events, such as flooding and cyclones, limit the opportunity to travel to markets (Reeve *et al.*, 2020).

Many unregulated informal markets, including those at Talise, Borderline, White River and Fishing Village, engage with larger markets. For example, a study of Savo Island communities and their engagement with HCM (Georgeou *et al.*, 2015) found that some Savo farmers used these smaller markets to sell produce that would spoil quickly (e.g. seasonal Savo apple), or if HCM was difficult to access.

Difficulties with transporting foods and lack of storage facilities have been recognized as a major challenge for farmers in Solomon Islands, significantly driving up post-harvest losses and limiting economic benefits for farmers (Reeve *et al.*, 2020). There is limited infrastructure throughout the supply chain for appropriate storage, particularly for products requiring cold chain facilities. While storage represents a challenge for farmers, it also represents a significant opportunity to reduce post-harvest losses. There is also limited storage at markets, which represents another important point of post-harvest loss (Reeve *et al.*, 2020).

Low access to improved sanitation facilities are seen in Solomon Islands, with access rates of 31 percent. Open defecation has a prevalence of 10 percent across ten PICTs and more than one-third of the population of Solomon Islands (Sharp and Andrew, 2021). In 2016 and 2017, United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) and Honiara City Council (HCC) made significant improvements to water availability and sanitation; however, overcrowding remains a significant issue and food is still sold on the ground despite improvements (Georgeou *et al.*, 2018).

Key stakeholders in storage and food handling include councils, for example, HCC and Gizo Town Council, which are largely responsible for markets, as well as private sector actors, including vendors and wholesalers, and providers such as the Ministry of Mines, Energy and Rural Electrification, and Solpower. Development partners will also be critical in providing technical expertise into the future. Improving on-farm storage would assist with reducing post-harvest losses. Irregular access to markets means that farmers often need to store produce after harvest, but this is currently inadequate. Assessment of storage requirements, including the key products that are perishable and require storage, and the appropriate infrastructure needed to achieve this, will be a critical first step. This will also require an assessment to ensure that appropriate sources of energy are available to support cold chain storage (FAO, 2020b).

Though development partners have invested in infrastructure to provide basic services such as roads, bridges and docks, there is no agency formally responsible for overseeing opportunities to address inefficient transport and storage systems. As a result, there has been little investment in post-harvest storage and transportation for fresh and traditional local foods. A survey at HCM concluded that improvement to transport and storage infrastructure is needed in order to guarantee food supply and fresh food availability during periods of vulnerability (e.g. floods) (Reeve *et al.*, 2020).

Most post-harvest processing in Solomon Islands is primary processing, where vegetables, fruits and root crops are prepared before they are sold to markets. Secondary processing includes threshing and packing rice in bags by farmers before being sold at markets. Tertiary processing covers higher value, ready-to-eat food, such as bakery products, canned tuna and coconut oil produced by producer organizations (Kama, unpublished). Value-adding equipment was recently received by Marahoto Holdings Company, Sol Agro Ltd and Jedom Organic Fruits through the Ministry of Commerce, Industries, Labour and Immigration (MCILI) under a research project by the Australian Centre for International Agricultural Research (ACIAR). Some of the value-adding products to be developed include Ngali Nut Body Oil, Baked Organic Ngali Nuts and Ngali Snacks and Cookies. Cocoa products will include Solomon Islands chocolate bars and similar products (Strongim Bisnis, 2019).

There has been some investment in primary processing for reducing post-harvest losses – drying, oil and juice extraction, and preservation using traditional practices. Primary processing could take place at farms or in



Processed imported food for sale, Solomon Islands.

centralized locations (more common for commercial crops), however, farmers face several challenges, such as a lack of electricity for processing. There is also a lack of access to finance by farmers, processors and middlemen (Reeve *et al.*, 2020). Initiatives to reduce post-harvest losses through primary processing include the Department of Planning–supported establishment of copra milling facilities in the rural areas to facilitate the production of coconut oil, biofuel, animal feed and other downstream products for export. Through its grants scheme, MCILI has supported initiatives to dry fruits and mill cassava flour. However, products developed for consumption are generally produced in small amounts and priced as luxury goods.

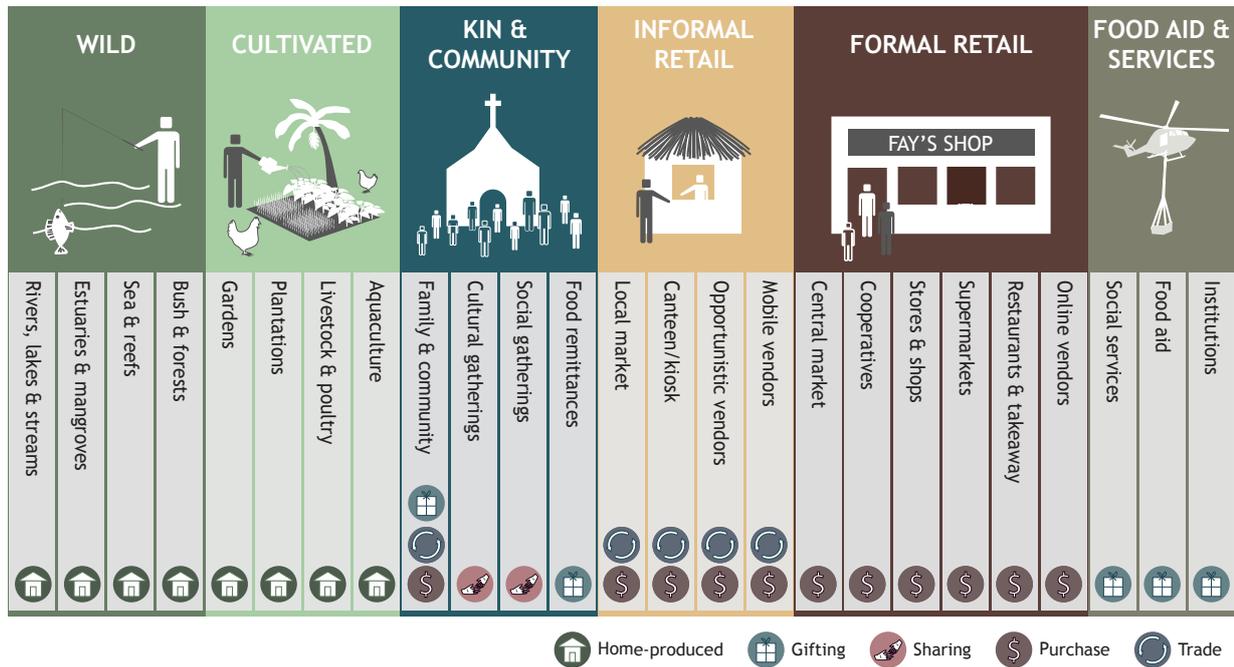
5.2 FOOD ENVIRONMENTS

The following text in sections 5.2.1–5.2.4 draws on research published by Bogard *et al.* (2021).

Food environments are conceptualized as all the places and pathways through which people acquire and consume food, and the various characteristics of those environments that influence food choices (Turner *et al.*, 2013; HLPE 2017). Food environments are important drivers of food choices and nutrition outcomes. Identification of opportunities in food systems to reduce the multiple burden of malnutrition is limited by existing food environment frameworks, which do not adequately capture the diversity of food environments relevant in the Pacific Region – specifically with regards to “informal” food exchange and the natural food environment. The food environment is a critical leverage point to support healthy and sustainable diets because it “contains the total scope of options within which consumers make decisions about which foods to acquire and consume” (Downs *et al.*, 2020). A food environment typology for Solomon Islands developed by Bogard *et al.* (2021) captures the diversity of physical spaces, social connections and pathways or mechanisms through which food is commonly acquired. The typology of food environments includes six main types – wild, cultivated, kin and community, informal retail, formal retail, and food aid and services – and 25 subtypes (Figure 5.9 and Table 5.1).

The four wild food environment subtypes considered here include: bush and forests; sea and reefs; estuaries and mangroves; and rivers, lakes and streams. The cultivated food environment in Solomon Islands includes four subtypes: gardens; plantations; livestock and poultry; and aquaculture. The last three are only considered a “food environment” when those involved in production use some of the produce for direct household consumption (excluding those who source this food via an alternative pathway, such as formal retail). It is recognized that very seldom do landscapes remain completely free from human influence and that wild food environments are part of a continuum alongside cultivated food environments in terms of management intensity (see, for example, Powell *et al.*, 2015). It should be noted that clear distinctions between the food environment types and subtypes presented here cannot always be clearly made and, in many cases, the typology should be interpreted more as a continuum rather than isolated categories. For example, fruit trees grown in areas within or nearby villages might be minimally tended by community members but do not fall neatly within the wild or cultivated food environments.

Figure 5.9: Conceptual typology of food environments in the Pacific region and primary exchange mechanisms



Source: Bogard, J.R., Andrew, N.L., Farrell, P., Herrero, M., Sharp, M. & Tutuo, J. 2021. *A typology of food environments in the Pacific region and their relationship to diet quality in Solomon Islands*. *Foods*, 10(11), 2592. <https://doi.org/10.3390/foods10112592>

The retail food environment (also known as the built or market environment) includes both formal and informal settings differentiated by the presence (or absence) of formal governance structures surrounding operations (Downs *et al.*, 2020). The distinction between formal and informal retail environments in terms of regulation is often not clear-cut and operates along a continuum rather than a dichotomy. For example, local markets in some parts of the Pacific region are likely to be guided by some form of governance structure, though the degree to which this functions is likely to vary widely across and within countries.

The inclusion of kin and community, and food aid and services is important in the food environment conceptualization for Solomon Islands, and the Pacific context (Bogard *et al.*, 2021). We define the kin and community food environment as the network of social relationships through which people acquire food. We consider four subtypes of kin and community: family and community (such as exchanging food with relations or neighbouring households); cultural gatherings or ceremonies (such as religious ceremonies); social gatherings (such as hosting guests in a household); and food remittances. The food aid and services food environment is defined as the provision of food from government or non-government organizations in response to acute or chronic food insecurity or as part of institutional food provision, and includes three subtypes: food aid (such as disaster relief in acute food shortages); social services (such as food assistance provided by governments to vulnerable groups facing chronic food insecurity); and institutions (such as the provision of food in hospitals, workplaces, schools, prisons and other institutions).

Alongside the *type* of food environment, a *primary exchange mechanism* exists through which food is most likely to be acquired in the various food environments (see Figure 5.9 and Table 5.1). Five primary exchange mechanisms are considered relevant to Solomon Islands:

1. **Purchase:** to acquire through a monetary transaction such as cash or electronic funds transfer.
2. **Home produced:** to acquire food produced by household members using their own capital and unpaid labour.
3. **Gifting:** to acquire through social norms or customs without any exchange of money, goods or services. This is a one-way exchange where one party gifts the food, and the other party receives it.
4. **Trading:** to acquire through a non-monetary exchange of goods or services, such as the exchange of food items for labour, or other food items.
5. **Sharing:** similar to gifting, but reflects occasions where the food is consumed immediately, and the “giver” participates in consumption. One or several giving groups contribute to the “pool” of food which is then shared communally. Sharing is typically associated with social and cultural functions, including receiving guests in a household.

Table 5.1: Definitions of food environment types and subtypes in Solomon Islands

	Food environment sub-type	Description	Primary exchange mechanism	Relationship between acquisition and consumption
Wild	Rivers, lakes and streams	Aquatic foods harvested from freshwater sources that have been produced without (or with minimal) human management or input	Home produced	Food usually acquired in advance and then taken to the household for preparation & consumption
	Estuaries and mangroves	Aquatic foods harvested from estuary sources that have been produced without (or with minimal) human management or input	Home produced	
	Sea and reefs	Aquatic foods harvested from marine sources that have been produced without (or with minimal) human management or input	Home produced	
	Bush and forests	Food harvested from terrestrial sources that have been produced without (or with minimal) human management or input	Home produced	
Cultivated	Gardens	Foods grown in a household or family plot of land such as a garden; can be located near or far from the household	Home produced	
	Plantations	Foods grown in cultivated plots for primarily commercial sale (if used as a source for own consumption); can be located near or far from the household	Home produced	
	Livestock and poultry	Livestock and poultry raised either on household plots or dedicated land for commercial sale (if used as a source for own consumption)	Home produced	
	Aquaculture	Aquatic foods cultivated in purpose-built structures (such as ponds) or modifications to natural water bodies (such as rock pools or cages)	Home produced	

Kin and community	Family and community	Members of the local community, including family members, where a person has some form of personal connection that enables the food transaction, e.g. community members visit neighbouring households as required to purchase or trade food items	Purchase	Food usually consumed at point of acquisition
			Trade	
			Gifting	
	Food remittances	Food sent long distances (between provinces or internationally), usually between family members	Gifting	
	Cultural gatherings	Community members coming together for cultural, religious or ceremonial reasons and share food	Sharing	
	Social gatherings	Visiting or receiving guests from another household (for social reasons) and sharing food	Sharing	
Informal retail	Local market	Markets that occur either in provincial capitals (but excluding the primary markets) or in other regions; include multiple vendors in an open-air communal area either with no roof, or individually managed temporary umbrellas or thatched roofs	Purchase	Mixed
			Trade	
	Canteen or kiosk	Semi-permanent structure like an open-fronted kiosk or hut, where customers stand outside the hut and request items to purchase from the vendor; sometimes attached to, or part of, houses	Purchase	
			Trade	
	Opportunistic vendors	Temporary vendors that set up with no or minimal equipment, such as a tarp or small table; sell items opportunistically at certain times of the day or week, e.g. boat landing sites, walking trails or roadsides	Purchase	
		Trade		
	Mobile vendors	Temporary vendors that use minimal equipment (such as baskets) to sell food while roaming from place to place	Purchase	
			Trade	
Formal retail	Online vendors	Food purchased online, usually with a smart phone or app, and delivered to consumers	Purchase	Food usually consumed at point of acquisition
	Restaurants and takeaway	A permanent structure where pre-prepared meals, snacks and beverages are sold for immediate consumption either on-site or for takeaway	Purchase	
	Supermarkets	A large permanent structure, often a “chain” store selling a large variety of fresh and processed food products with items displayed in aisles; often including refrigerated sections	Purchase	Food usually acquired in advance and then taken to the household for preparation and consumption
	Stores and shops	A permanent structure (smaller than a supermarket) where customers can enter the store and choose items from shelves in a self-serve manner; a smaller selection of mostly packaged foods compared with supermarkets.	Purchase	
	Cooperatives	A store which is operated and run by a community of people or members where benefits are shared	Purchase	
	Central market	The primary market in urban centres or provincial capitals; these markets include multiple vendors in a semi-permanent open-air communal area usually under a single roof (or immediately adjacent to)	Purchase	
Food aid and services	Social services	Food provided by governments on a regular and consistent basis to vulnerable population groups experiencing poverty and or food insecurity	Gifting	Food usually consumed at point of acquisition
	Food aid	Food relief provided by governments or NGOs in response to short-term food systems shocks, such as natural disasters	Gifting	
	Institutions	Food provided within public or private institutions, such as schools, workplaces, hospitals, aged care facilities, child-care facilities, prisons, and others	Gifting	

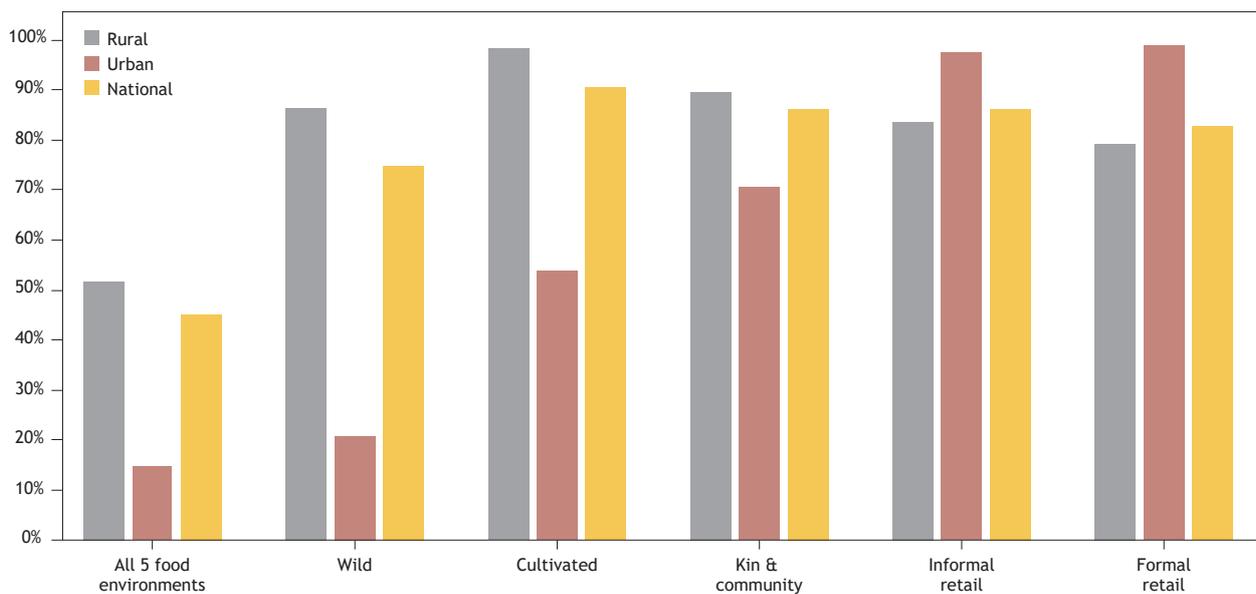
Source: Bogard, J.R., Andrew, N.L., Farrell, P., Herrero, M., Sharp, M. & Tutuo, J. 2021. *A typology of food environments in the Pacific region and their relationship to diet quality in Solomon Islands*. *Foods*, 10(11), 2592. <https://doi.org/10.3390/foods10112592>

5.2.1 DIVERSITY OF FOOD ENVIRONMENTS (URBAN/RURAL)

Of the food environment subtypes identified by Bogard *et al.* (2021), on average, households accessed 6.4 different subtypes, with some regional variability. Rural households accessed a slightly but significantly greater diversity of food environments compared with urban households (mean = 6.5 and 5.7, respectively, $p < 0.05$). Households in Rennell and Bellona Province accessed a significantly lower diversity of subtypes compared with all other provinces (mean = 5.3, $p < 0.05$). Wealthier households accessed a slightly higher number of food environments on average, compared with the lowest wealth group.

As would be expected, nearly all urban households accessed the formal (99 percent) and informal (98 percent) retail food environments compared with 79 percent and 84 percent of rural households, respectively ($p < 0.05$; Figure 28). In contrast, nearly all rural households accessed the cultivated (98 percent) and wild (87 percent) food environments compared with 54 percent and 21 percent of urban households, respectively ($p < 0.05$). Most households rely to some extent on kin and community as a source of food, accessed by 71 percent of urban and 89 percent of rural households.

Figure 5.10 Proportion of households accessing different food environments in Solomon Islands, nationally and in urban and rural areas



Source: Bogard, J.R., Andrew, N.L., Farrell, P., Herrero, M., Sharp, M. & Tutuo, J. 2021. *A typology of food environments in the Pacific region and their relationship to diet quality in Solomon Islands*. *Foods*, 10(11), 2592. <https://doi.org/10.3390/foods10112592>

Access to different food environment types varied widely between provinces, with the extremes typically reflected by differences between Rennell and Bellona (an exclusively rural area) and Honiara (an exclusively urban area). Rennell and Bellona had the lowest proportion of households accessing formal and informal retail food environments but the highest proportion of households accessing the cultivated, and kin and community food environments. In contrast, Honiara had the highest proportion of households accessing the formal and informal retail food environments, and the lowest accessing the cultivated, wild, and kin and community food environments.

The proportion of households accessing food via all five food environment types varied widely: 45 percent nationally compared with 15 percent of urban households and 52 percent of rural households. The lowest access to all five food environments was within Honiara (3 percent of households) and Rennell and Bellona (16 percent), indicating that access to various food environment types is linked to both urban and rural contexts. The greatest diversity of access was observed in Choiseul Province, where 63 percent of households accessed all five food environments. No clear trend was observed among wealth groups, with the highest proportion of households accessing all five food environments from the middle wealth group.

Access to different food environment types also differs by wealth group. As wealth increases, the proportion of households accessing formal and informal retail food environments also increases. In contrast, as wealth increases, the proportion of households accessing the cultivated and wild food environments decreases significantly ($p < 0.05$). A slighter higher proportion of households in lower wealth groups accessed the kin and community food environment, though differences were not significant across wealth groups.

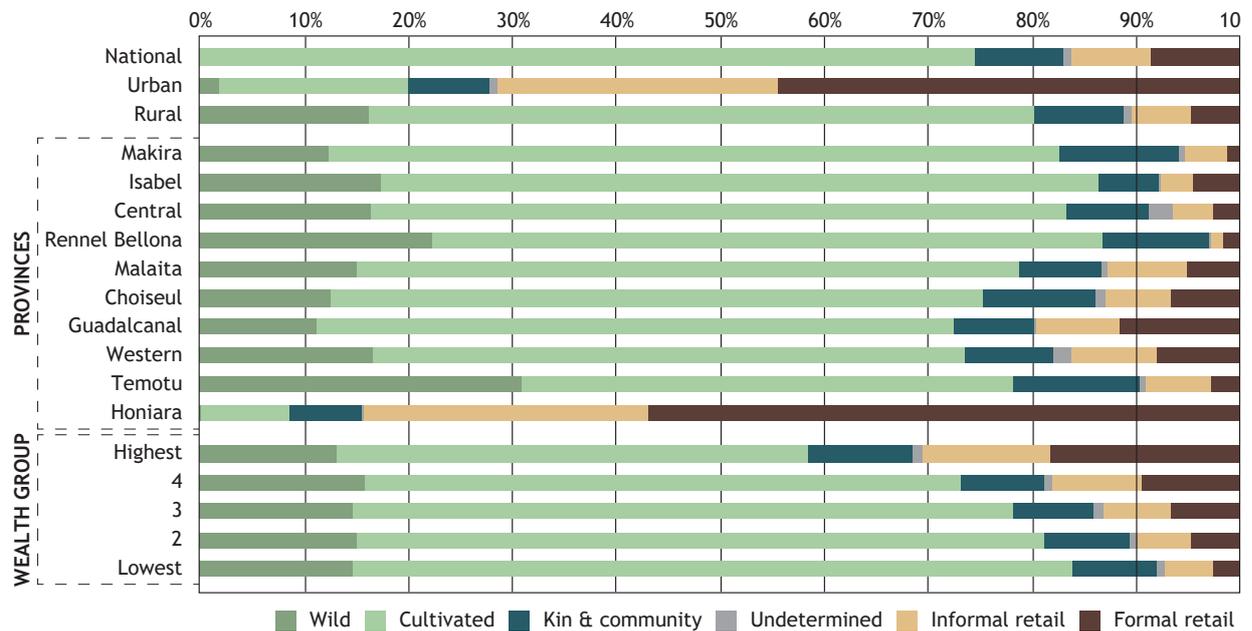
5.2.2 FOOD ACQUISITION BY FOOD ENVIRONMENT TYPE

The cultivated food environment is by far the most important food environment in Solomon Islands, providing almost 60 percent of the quantity (Figure 5.11) and 33 percent of the value of food acquired nationally. This is followed by the wild food environment (15 percent of quantity and 12 percent of the value of food acquired), kin and community (9 percent of quantity and 12 percent of the value) and formal and informal retail food environments (8 percent each). When examining food environment subtypes, gardens account for the largest quantity of food acquisition, followed by family and community, and sea and reefs (8 percent each). Perhaps surprisingly, central, and local markets account for only 3 percent and 4 percent of the total quantity of food acquired, respectively.

There was wide variation in the relative importance of food environment types and subtypes according to urban versus rural areas, as well as across provinces. The formal and informal retail environments dominate food acquisition in terms of quantity in urban areas, while the wild and cultivated food environments play a much more significant role in rural areas and most of the provinces (excluding Honiara which is an exclusively urban area) (Figure 5.11). The importance of kin and community is much more consistent (less variable) across the provinces and urban versus rural areas compared with other food environment types.

The kin and community food environment reflects the historical importance of trade between local tribal or kinship groups with access to different food resources, such as the trade of root vegetables and fish between hill and sea people (Ross, 1978). The kin and community food environment also captures the importance of social and cultural gatherings as a source of food, including gifting or sharing foods within extended family groups on a daily basis, and the more significant cultural and ceremonial events that feature regularly in the lives of Pacific Islanders.

Figure 5.11: Proportion of total quantity of food acquired from different food environments in different geographies and wealth groups in Solomon Islands



Notes: In the 2012/13 HIES, Honiara was separated from the rest of Guadalcanal.

Source: Bogard, J.R., Andrew, N.L., Farrell, P., Herrero, M., Sharp, M. & Tutuo, J. 2021. A typology of food environments in the Pacific region and their relationship to diet quality in Solomon Islands. *Foods*, 10(11), 2592. <https://doi.org/10.3390/foods10112592>

There is also wide variation in dependence on different food environments according to wealth groups. Least wealthy households rely much more heavily on the cultivated food environment compared with wealthy households (69 percent and 45 percent of the quantity of food acquired, respectively). The opposite trend is seen in reliance on the formal retail food environment: households from the lowest wealth group acquired 3 percent of their total food (by quantity) from formal retail compared with 18 percent by wealthy households. Interestingly, reliance on wild, and kin and community food environments was relatively consistent across wealth groups.

When food acquisition by food environment types is examined according to the economic value of food (rather than quantity as above), some slightly different patterns emerge. The cultivated food environment still accounts for the vast majority of food acquired nationally, albeit at a lower level (33 percent of food acquisition) followed by formal retail (27 percent), informal retail (14 percent), and kin and community, and wild FEs (12 percent each). These differences could reflect differences in the types of food items accessed through the different food environments (e.g. foods commonly sourced from the cultivated food environment are cheaper per unit compared with food items commonly sourced from retail food environments). Alternatively, this could also indicate under-reporting of the economic value of foods from cultivated food environments at the point of data collection.

5.2.3 MECHANISMS OF EXCHANGE

Home production was the dominant exchange mechanism for foods acquired from the wild and cultivated food environments, accounting for 98 percent and 99 percent of transactions of food acquired respectively (data not shown). Purchase and trade were the predominant exchange mechanisms for food acquired in both formal and informal retail environments, together accounting for 100 percent and 99 percent of transactions, respectively. The exchange mechanism for foods acquired through the kin and community food environment is mixed, with gifting or sharing together accounting for 60 percent of transactions and the remaining 40 percent acquired through purchase or exchange mechanisms. This contributes further evidence that kin and community is a key structural component of food environments in Solomon Islands.

The food aid and services food environment is based solely on gifting (by definition) as the transaction mechanism and is likely to be a small but notable feature of food environments in the Pacific region, given the role food aid and services play in prevention of malnutrition, particularly in times of acute food shortages that can occur following events such as natural disasters.

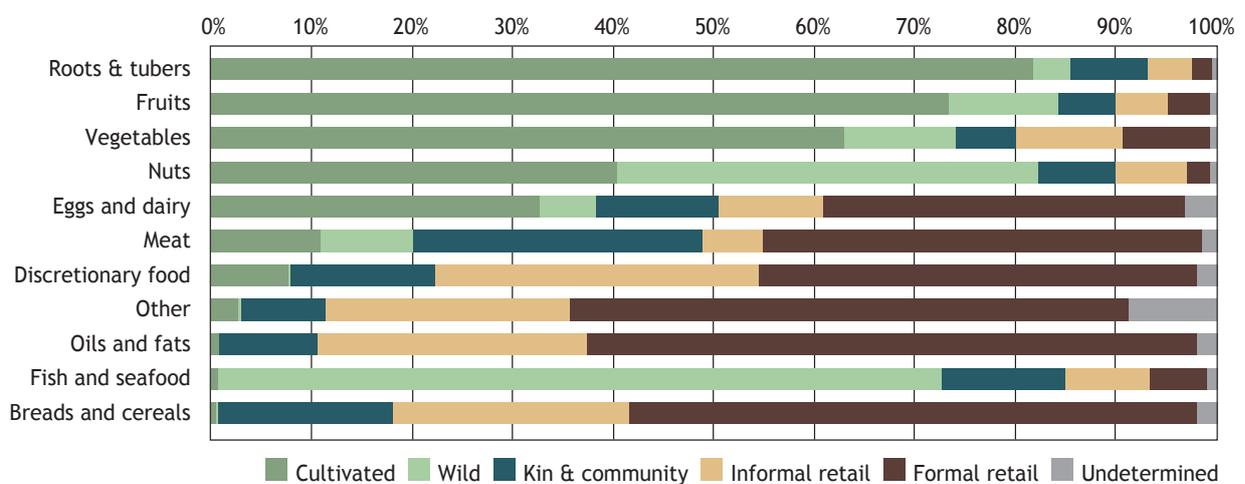
5.2.4 FOOD ENVIRONMENTS AND DIET QUALITY

Reliance on different food environments is a significant predictor of diet quality. Diet quality was examined using HIES data; for example, expenditure on fruits and vegetables was used as a proxy for good diet quality, and expenditure on ultra-processed foods was used as a proxy for poor diet quality, reflecting the Solomon Islands Food-Based Dietary Guidelines. Reliance on the formal retail food environment was associated with lower diet quality on both measures: lower acquisition of fruits and vegetables; and higher acquisition of ultra-processed foods. In contrast, reliance on cultivated, wild, and kin and community food environments were significant positive predictors of fruits and vegetables acquisition. The cultivated food environment provides the majority of roots and tubers (82 percent), fruits (73 percent) and vegetables (63 percent), as well as a considerable proportion of nuts (41 percent) and eggs (33 percent) acquired nationally. In contrast, formal retail provides the majority of oils and fats (60 percent), breads and cereals (56 percent), meat (43 percent) and discretionary foods (43 percent).

The wild food environment provides the majority of fish and seafood (72 percent) and nuts (42 percent) acquired nationally. The kin and community food environment plays a more moderate role across several food groups as a source of meat (29 percent), breads and cereals (18 percent), discretionary foods (14 percent) and fish and seafood (12 percent) (Figure 5.12). Similar trends can be seen when examining the proportion of food groups acquired from different food environments in terms of economic value of food (rather than quantity), although with some noticeable deviations. For example, formal and informal retail together account for 14 percent of the quantity of fish and seafood acquired, but 35 percent of the value of seafood acquired. The application of this food environment typology to food acquisition data provides crucial information on how to target initiatives that aim to improve the quality of diets in the Pacific region to address malnutrition

and the associated rising prevalence of NCDs. For example, in Solomon Islands, initiatives that support the cultivation of fruits and vegetables will be crucial to increasing consumption of these foods for most of the population. Similarly, initiatives that support fisheries management approaches, and the natural resources on which fisheries depend, will be crucial for the sustainable provision of fish and seafood from wild sources. Actions to reduce consumption of discretionary foods, particularly ultra-processed foods, must target shops, stores and canteens. Actions must also be targeted separately to urban and rural areas where the reliance on different food environments varies widely.

Figure 5.12: Proportion of total quantity of food groups acquired from different food environments in Solomon Islands nationally



Source: Bogard, J.R., Andrew, N.L., Farrell, P., Herrero, M., Sharp, M. & Tutuo, J. 2021. *A typology of food environments in the Pacific region and their relationship to diet quality in Solomon Islands*. *Foods*, 10(11), 2592. <https://doi.org/10.3390/foods10112592>

5.2.5 MAIN ELEMENTS OF THE URBAN AND PERI-URBAN FOOD MARKETS IN HONIARA

There is a range of different urban and peri-urban markets in Solomon Islands and here we present a summary of published research and reports, which have predominantly focused on Honiara, and to a lesser extent on Auki and Gizo.

Honiara Central Market is the largest market in Solomon Islands. The market holds over 500 market vendors and nearby stores. Produce at HCM includes categories that represent the main groups of dietary diversity, such as beans and legumes, fruits, leafy greens, nuts, root vegetables, poultry and seafood (Georgeou *et al.*, 2018). East and West Guadalcanal are the major supply areas for cultivated crops at HCM, with nearby islands and provinces supplying fish and other items (e.g. megapode eggs from Savu).

Market stalls are the most common type of venue selling food in Auki, followed by stores, roadside vendors, food bars and bakeries (Bottcher *et al.*, 2020). As a semi-remote and regional centre experiencing a high rate of rural–urban migration, Auki’s food systems are likely in active transition from a semi-subsistence to more commercially focused food supply system (Bottcher *et al.*, 2020).



Credit: © Jessica Bogard.

Household garden in rural Solomon Islands growing coconut, banana, breadfruit, papaya, island cabbage, sugar cane and taro, 2015.

Gizo Market is situated in Gizo, the provincial capital of Western Province. It attracts vendors from Gizo Island and others nearby, such as Kolombangara, Simbo, Rannogna and Vellalavella. Vendors commute via boats with outboard motors or canoes to sell their produce. The surrounding township also has stores that supply mostly processed and packaged foods and beverages for the town's population and day-to-day visitors from nearby islands and villages.

The Environmental Health Division of the Ministry of Health and Medical Services is primarily responsible for regulating food quality and safety in Solomon Islands, the rules and regulations for which are outlined in the Pure Food (Food Control) Regulations 2010. Limited storage facilities at food markets and lack of cold chain storage impacts consistent supplies of good-quality, safe agriculture and aquaculture products (Reeve *et al.*, 2020). This further impacts on market opportunities for farmers and vendor stallholders, as well as local demands on food supply.

5.2.6 VENDOR TYPOLOGY

This section draws on data from a recent survey of market vendors in Honiara, Gizo and Auki (Tutuo, Farrell and Bogard, unpublished) as well as other previously published reports and research. The data collected from central markets, as well as additional stores, shops, canteens and supermarkets, shows that across all markets, 80 percent of vendors are women (Table 5.2). Women's contribution to the economy should not be underestimated. The annual turnover at HCM, where women are responsible for about 90 percent of marketing activity,

is between USD 10 million and USD 16 million (IFC, 2010). More work is required to determine differences in work conditions for different vendor types, for example, between more formal shops where men are more likely to be vendors and less formal markets which are dominated by women vendors.

Table 5.2: Vendors in Solomon Islands, by location and gender (2021 data)

Type of vendor	Location			Gender				
	Total	Honiara	Auki	Gizo	Female		Male	
	n	n			n	percent	n	percent
Vendor within market	564	417	86	61	450	80	114	20
Canteen/lock-up shop	25	12	7	6	13	52	12	48
Shop/store	51	11	28	12	22	43	29	57
Supermarket	6	2	3	1	4	67	2	33
Other	7	0	5	2	3	43	4	57
Total	653	442	129	82	492	75	161	25

Notes: estimates of percentage men and women from very small sample sizes should be interpreted with caution.

Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

The vast majority of produce at HCM is fresh daily, with four out of five vendors spending between half and one day at the market. Longer stays are more common for those selling seafood and over half of seafood vendors spend 2–3 days at HCM (Georgeou *et al.*, 2018). In their study of Gizo, Auki and Honiara markets, Tutuo Farrell and Bogard (unpublished) found that most vendors across the three markets were owner operated, followed by family operated, and market or store trading. Other forms of ownership included “paid by vendor or employment”. The majority of market vendors (92 percent) sourced their produce themselves from their own gardens and plantations (71 percent) or used their own labour to source foods from the wild (20 percent). Only about 15 percent of market vendors sold produce they had acquired through purchasing from original fishers or farmers, or from resellers (Tutuo Farrell and Bogard, unpublished).

There are two main groups of produce resellers. One group resells produce at HCM, the other buys produce at HCM and resells elsewhere (Georgeou *et al.*, 2018). Middlemen buy farmers’ produce in bulk for resale at the market, guaranteeing farmers a buyer and enabling them to spend less time as market vendors. A recent survey indicated that nearly 20 percent of HCM vendors were middlemen (GoSI, 2019). There are reports of disputes in the sector around whether a fair price is being paid to farmers, and middlemen face a potential financial risk if produce does not sell (Reeve *et al.*, 2020). Resellers who purchase in bulk at HCM then sell at other points; for example, from roadside stalls along the highway within and outside of the Honiara city limits, or at other non-HCC-managed markets within Greater Honiara. This group disperses fresh produce throughout the Greater Honiara area, facilitating access for urban residents (Georgeou *et al.*, 2018).

Tutuo Farrell and Bogard (unpublished) also reported that canteens, shops and stores, and supermarkets mainly source their products from resellers or directly import their products. The authors found that produce in Honiara was sourced from a variety of locations in all the provinces across Solomon Islands by all vendors. The majority of vendors in Auki sourced their produce from within Malaita or from Guadalcanal. Very few vendors also sourced produce from Central and Isabel provinces. Similarly, vendors in Gizo sourced their produce from within the Western Province or from Guadalcanal, indicating a two-way flow of produce between all provinces and Guadalcanal, but relatively little flow of produce between the other provinces (Tutuo, Farrell and Bogard, unpublished).

Tutuo, Farrell and Bogard (unpublished) found the most common exchange mechanism used by market vendors for sourcing or acquiring produce was the use of own labour (e.g. through harvesting foods from cultivated or wild food settings) (Table 5.3). The most common exchange mechanism used when selling produce was cash purchases. Some market vendors also accepted the trade of food or non-food items for their produce (n=22) and some vendors gifted their produce in relation to sociocultural obligations (n=8). China, Australia and New Zealand were the most commonly reported source countries of imported products.

Table 5.3: Production source in Solomon Islands by vendor type

	Wild (n)				Cultivated or home produced (n)			Purchased from third party (n)		
	Bush	Fresh-water	Mangroves	Sea	Garden	Plantation	Home produce*	Producers	Reseller	Imported
Market vendor	52	10	8	45	328	50	23	52	33	2
Canteen	0	0	0	0	0	0	0	0	19	9
Shop or store	0	0	0	0	0	0	1	1	35	21
Super-market	0	0	0	0	0	0	0	0	4	3
Total [^]	52	10	8	45	328	50	24	53	91	35

Notes: *Home produce includes other forms of own production, such as baking. [^]Vendors may select multiple sources of production, so totals add up to more than total number of vendors in survey.

Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

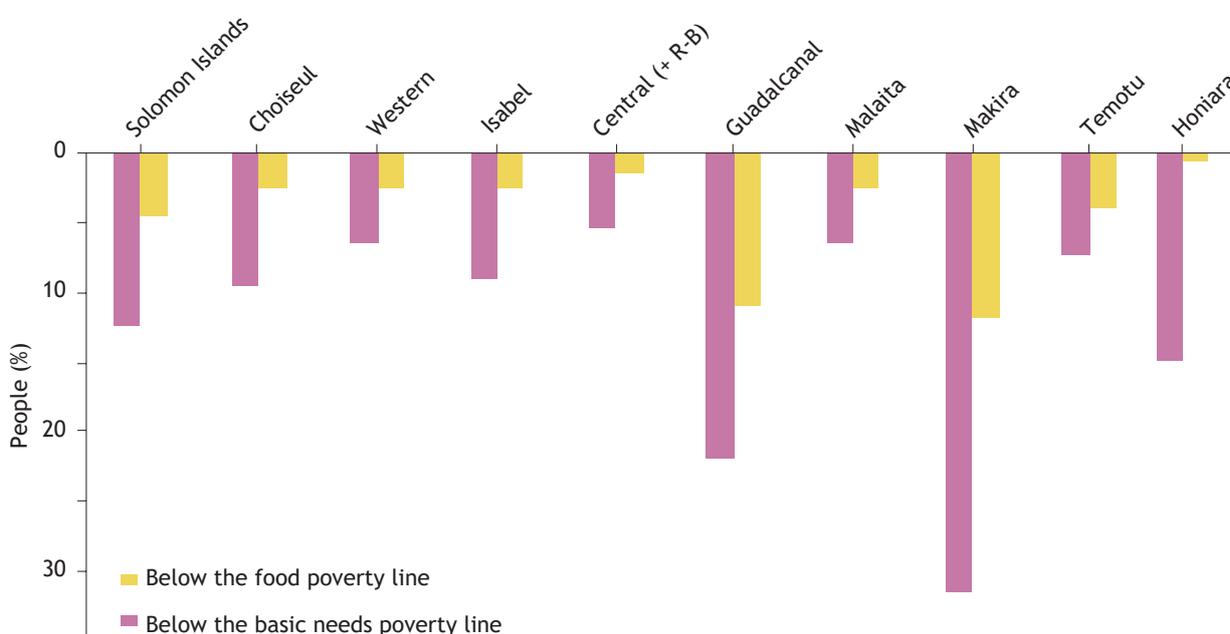
5.2.7 FOOD PRICES AND AFFORDABILITY OF DIETS

The following text draws on the report by Troubat, Sharp and Andrew (2021).

The 2015 National Poverty Report (GoSI and World Bank, 2015) provides some insight into food affordability in Solomon Islands. Food prices vary across the country and, as a result, the food poverty line also varies by location. The report found that the costs of meeting basic needs (including food) was much higher in urban areas than in rural areas, and the costs of meeting basic needs were approximately twice as high in the capital of Honiara than in the provinces. The three provinces with the lowest poverty lines are Choiseul, Malaita and Temotu, where the cost of meeting basic needs is less than one-half of that in Honiara.

While about 12.7 percent of the population in Solomon Islands lives below the poverty line, the incidence of food poverty is relatively low overall (4.4 percent nationally), although there is significant variation across the country, with higher rates of food poverty in Makira-Ulawa and Guadalcanal (Figure 5.13). As described in Section 3.1, the majority of people below the food poverty line live in rural areas (GoSI and World Bank, 2015) and food poverty in urban areas is reportedly very low (World Bank, IFC and MIGA, 2017). However, the food poverty line in 2015 was significantly higher in Honiara at SBD 446 (USD 54) than the national average of SBD 183 (USD 22) per household per week (Table 5.4). Despite higher nominal incomes in Honiara, the risk of someone being in poverty is higher there than for the country as a whole. Urban households are also potentially susceptible to food poverty given their lower participation in primary production and higher dependency on cash-purchased food (Sharp and Andrew, 2021).

Figure 5.13: National and provincial poverty incidence in Solomon Islands. Guadalcanal does not include Honiara



Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. fao.org/documents/card/en/c/CB4459EN. 2021, using ADePT and 2012/13 HIES data.

Table 5.4: Food and basic needs poverty lines, by household location, in Solomon Islands

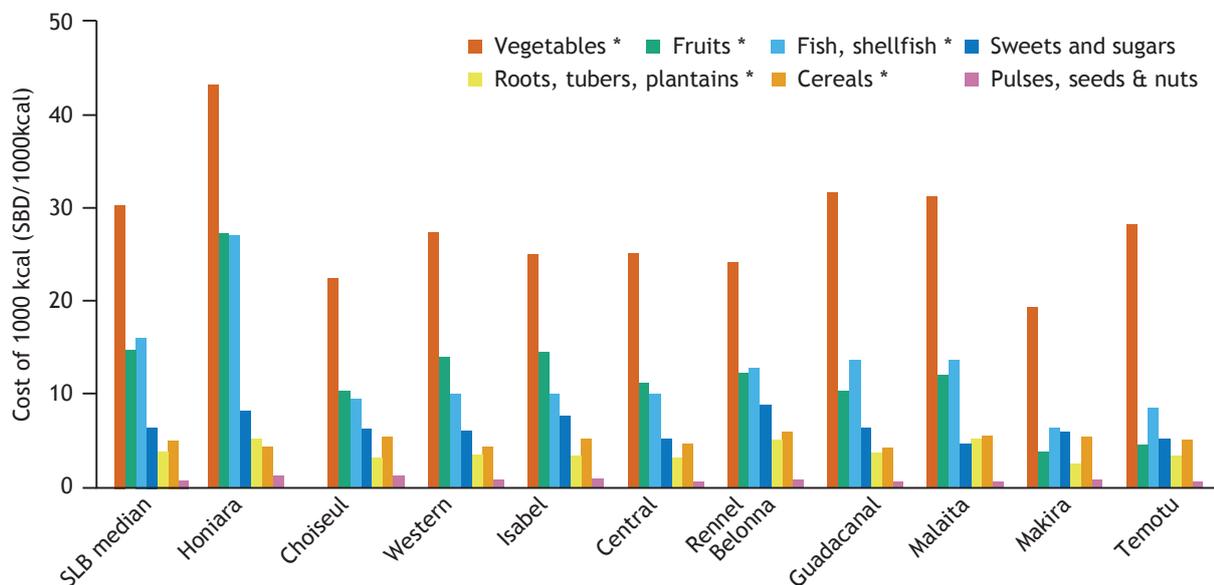
Location of household	Food poverty line in SBD (USD), adult per capita equivalent	
	Per week	Per day
National	182.27 (22.10)	32.59 (3.94)
Honiara	446.40 (53.94)	62.17 (7.51)
Provincial/urban	249.04 (30.09)	42.33 (5.11)
Rural	156.17 (18.87)	27.48 (3.32)

Source: Solomon Islands HIES. 2015.

In regard to the cost of specific foods, acquiring 1000 kcal from fish, fruits and vegetables costs twice as much in Honiara than elsewhere. However, cereals are a more affordable source of energy in Honiara than in other provinces. Households in Honiara spend the most on food, but as a proportion of their average income, the amount spent on food in their total household budget is lower than for the other provinces.

In general, the group of “pulses, seeds and nuts”, consisting predominantly of brown and dried coconut, is the cheapest source of dietary energy in Solomon Islands. Compared with these foods, it costs almost seven times as much to get 1000 kcal from cereals and 40 times as much to get 1000 kcal from vegetables (Figure 5.14). The cost of 1000 kcal from meat is double that from fish and fish products. Fats and oils are the second most affordable source of dietary energy. In comparison to fruits, “free sugars” sourced from the products belonging to the group “sweets and sugars” are a less expensive source of dietary energy (Figure 5.14).

Figure 5.14: Cost of 1000 kcal of the main groups of food products consumed, by region, in Solomon Islands. Guadalcanal does not include Honiara. *and their products

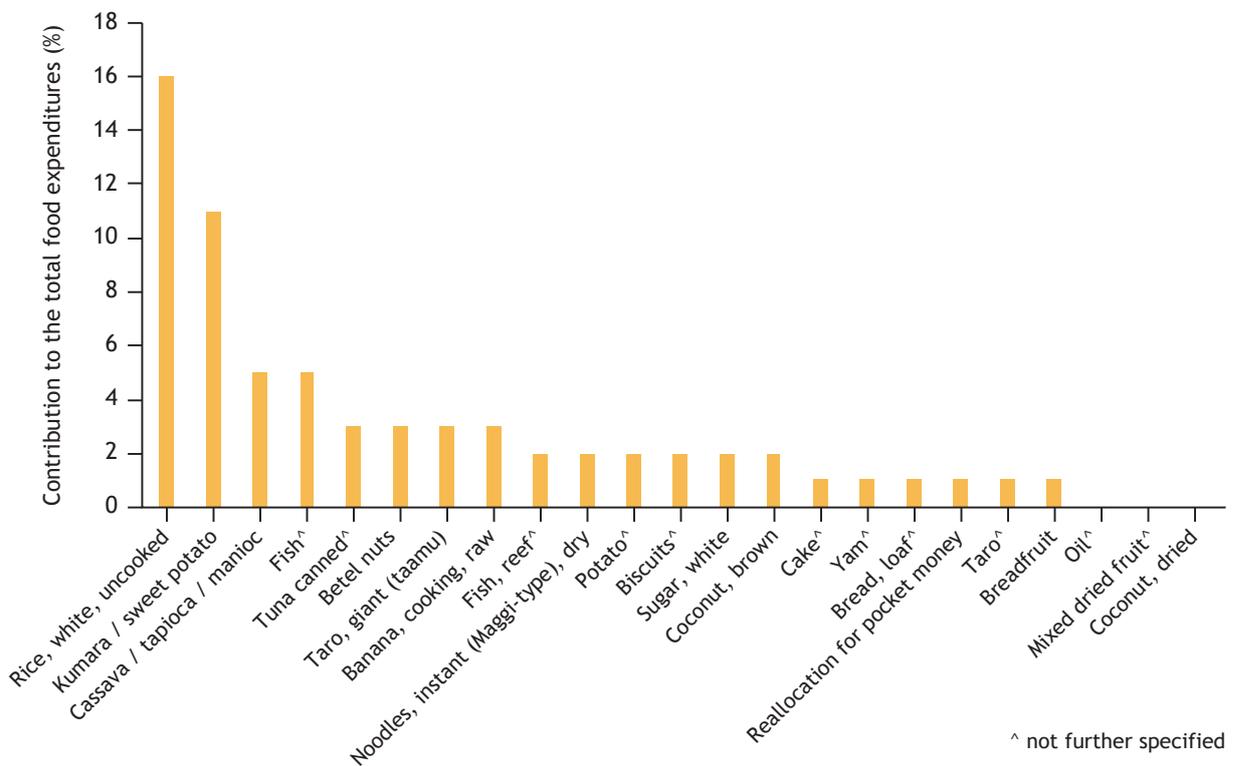


Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. [fao.org/documents/card/en/c/CB4459EN](https://www.fao.org/documents/card/en/c/CB4459EN) based on 2012/13 HIES.

Troubat, Sharp and Andrew (2021) identified around 20 products contributing to 90 percent of the dietary energy consumed. Of these, canned tuna contributes to 3 percent of household food consumption expenditure and is the most expensive source of energy followed by fish (not further specified), which represents 5 percent of the total amount spent on food (Figure 5.15). Rice is a less expensive source of energy compared with fish, and it is also the largest single household food expenditure item, accounting for 16 percent of expenditure. Most rice acquired is purchased (see Box 5.1), so even a slight increase in price could have dramatic consequences on access to dietary energy for Solomon Islands households, particularly those residing in the capital, Honiara, where rice contributes 34 percent of total dietary energy consumption (DEC). Sweet potato (kumara) is second to rice in terms of food consumption expenditure, but most is own produced. The cost of 1000 kcal from rice is almost the same as the cost to acquire 1 000 kcal of sweet potato, which accounts for 11 percent of total food expenditure.

The amount spent on alcoholic and non-alcoholic beverages is relatively marginal and represents only 3 percent of the total food expenditure. Beer is the beverage contributing the most to the total food expenditure (1 percent), followed by “three-in-one” coffee mix (0.6 percent) and followed well behind by Milo-type drinks (containing chocolate malt powder) and soft drinks (0.26 percent and 0.23 percent, respectively). The apparent overall low contribution of alcoholic beverages to total DEC may be due to under-reporting of these products, as quite often these products are consumed away from home by only a few household members.

Figure 5.15: Contribution of food products to the average food expenditure on the food products comprising 90 percent of the dietary energy consumed (percent) in Solomon Islands



Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. fao.org/documents/card/en/c/CB4459EN 2012/13 HIES data.

The following text draws from Farrell, *et al.*, (2022).

While reported consumption of fruits and non-starchy vegetables (FNSV) was lower than half of the recommended intake, the 2012/13 HIES data indicate that own produced, or the cultivated food environment, is very important for sourcing FNSV, especially in rural areas (noting 75–80 percent of the Solomon Islands population is rural). In rural areas, the FNSV consumed were predominantly home produced – 82 percent of fruits and 84 percent of non-starchy vegetables. In contrast to rural areas, in urban areas (approximately 25 percent of Solomon Islands population), where consumption of FNSV is also low, FNSV were predominantly acquired via cash (i.e. purchased) – 66 percent of fruits and 80 percent of non-starchy vegetables.

Fruits and non-starchy vegetables are more expensive in urban than rural areas (Table 5.5). The minimum cost per capita of acquiring 400 g of FNSV is SBD 2.48/day (USD 0.35/day) in urban areas compared with SBD 1.62/day (USD 0.23/day) in rural areas. Affordability of FNSV is greater in rural areas and for those in the higher income group (see Box 3.1).

Table 5.5: Relative affordability of fruits and non-starchy vegetables in rural and urban areas in Solomon Islands - daily mean per adult male equivalent acquisition (SBD)

Income		FNSV acquisition	Food acquisition	Total goods acquisition	FNSV acquisition	
		<i>SBD, daily</i>	<i>SBD, daily</i>	<i>SBD, daily</i>	<i>% of daily food acquisition</i>	<i>% of daily total goods acquisition</i>
Urban	Higher 50%	11.14	24.62	91.45	10	3
	Lower 50%	7.49	12.11	25.89	20	10
Rural	Higher 50%	9.06	29.36	63.24	6	3
	Lower 50%	6.23	13.28	21.77	12	7

Source: Farrell, P.2019. *The power to choose: Proximal determinants of access to nutritious food in the Pacific region*. PhD thesis. Sydney, School of Public Health Faculty of Medicine, University of Sydney. ses.library.usyd.edu.au/bitstream/handle/2123/22008/farrell_pc_thesis.pdf

*The HIES dataset uses price estimates of food for household consumption, which is the main source of FNSV in rural areas. Higher 50 percent income means it is above the weighted median income.

5.2.8 PHYSICAL AND ECONOMIC ACCESS TO FOOD

Due to a large proportion of the Solomon Islands population engaging in subsistence farming, and to a lesser extent in and onshore fishing, there is a range of foods directly available (Reeve *et al.*, 2020). However, not all households have access to a balanced diet, as fewer than one household in five reach adequate amounts of proteins, fats and carbohydrates. Food access depends on economic status – with wealthy households having greater access to food – and geographical location for physical access. Ability to travel long distances to local or provincial markets (in sparsely populated areas) is also a critical factor. Social determinants also play a role in food access. For example, women suffer from higher rates of gender-based violence and intra-household food access is linked to family roles and status; together, these circumstances can affect, or disrupt, ongoing access to high-quality foods (Reeve *et al.*, 2020).

A study of food access and availability in Auki, which investigated at one time point the number, type and characteristics of food venues and characteristics of items for sale (including type, brand, price, source and quality), found residents had good access to, and availability of, foods from the three groups (energy foods, protective foods and body-building foods) identified in the Pacific Guidelines for Healthy Living (SPC, 2018), but diversity was lacking (Bottcher *et al.*, 2020). The authors found that many fresh foods are likely seasonal, suggesting there may be periods when Auki residents have greater or lesser access to a variety of foods, potentially impacting food security. A study on nutritious food access in urban Solomon Islands found the dominant influencers of the diet patterns described by participants were food affordability and access to land on which to grow food (Farrell *et al.*, 2021). All participants experienced food insecurity, and reported diet patterns reflected unhealthy diets which were particularly high in processed and sugary foods.

Dietary energy supply exceeds the average dietary energy requirements in PICTs. However, Solomon Islanders has little surplus dietary energy in relation to their average requirements and are therefore at risk of dietary

energy supply inadequacy. In consideration of the coexistence of overnutrition and undernutrition that has been presented above, we can deduce that there is a degree of inequality in the distribution of dietary energy supply, particularly for vulnerable groups, such as those that are impoverished, those with disability, and women and children (Sharp and Andrew, 2021).

The regions of Guadalcanal and Makira-Ulawa are among the regions where access to dietary energy is the least unequal. However, in these regions, the disparities in food and total expenditures are also the greatest, with total expenditure of the high-wealth households being more than eight times that of low-wealth households, and where food expenditure is 3.5 times that of low-wealth households. This is due to the relatively lower cost of 1000 kcal in these regions and the correspondingly high average DEC. Inequalities in access to food also occur between households engaged in agriculture, livestock or fishing activities compared with households not engaged in these activities; the former present higher DEC. In addition, almost 90 percent of Solomon Islands households have a vegetable garden, which gives them per capita access to an additional 400 kcal/day compared with households without a garden (Troubat, Sharp and Andrew, 2021).

People in poor households consume, on average, 1000 kcal/per capita per day less than those in wealthier households. Expenditure on food also varies markedly between poor and wealthier households, accounting for 69 percent and 30 percent of total household budgets, respectively. The most vulnerable people, those belonging to households with the lowest total expenditures, are more at risk of not being able to access the amount and quality of food they need to be in good health and to be socially and economically active (Troubat, Sharp and Andrew, 2021).

5.3 CONSUMER BEHAVIOUR

Consumer behaviour is a component of food systems and includes people's decisions about what kinds of foods they choose to eat, as well as how people prepare, store, consume and share food with others in their households.³ To date, data on consumer behaviour in Solomon Islands have only been documented for formal markets, predominantly HCM. Consumers at HCM are usually (96 percent) Honiara residents who shop there two or three times per week (42 percent) or daily (35 percent). HCM consumers typically spend around SBD 200 per shop, and very few spend more than SBD 500 (Georgeou *et al.*, 2018).

Food purchasing behaviours of adult Solomon Islanders have also been studied in Auki at the market and stores (Bottcher *et al.*, 2019). The food purchasing behaviour measures examined included: venue type; means of transportation to purchase food; previous day expenditure on food purchases; number of weekly shopping occasions for store foods (generally long-life shelf and frozen items) and fresh foods (such as fruits, vegetables and fresh fish); and the importance of factors (e.g. price) on purchasing decisions. Purchasing was found to differ between fresh foods and semi-perishable foods (store foods). Participants reported similar number of shopping occasions for store foods and fresh foods (averaging 3.9 and 3.3 times a week, respectively) and

3 See, for example, <https://foodsystemsdashboard.org>

spending between SBD 1 and SBD 200 (averaging SBD 56.12) on food in the previous day. The most reported purchased item was white rice (n=117, 88 percent), with taste, freshness and family preference the most important factors reported as influencing food purchasing choices. In a study by (Horsey *et al.*, 2019), responses to why participants selected a preference for shop food included: “it’s nice”, “convenient”, “easy to prepare”, “tastes sweet” and “it’s easy”. Responses to why participants selected a preference for both shop and local food included: “provides a balance”, “depends on budget”, “because I have a choice”, “build my health”, “like a variety” and “both have nice food”. More work is needed on investigating food purchasing behaviours at other times of the year, and more widely in the Solomon Islands (Bottcher *et al.*, 2019), including outside the major markets.

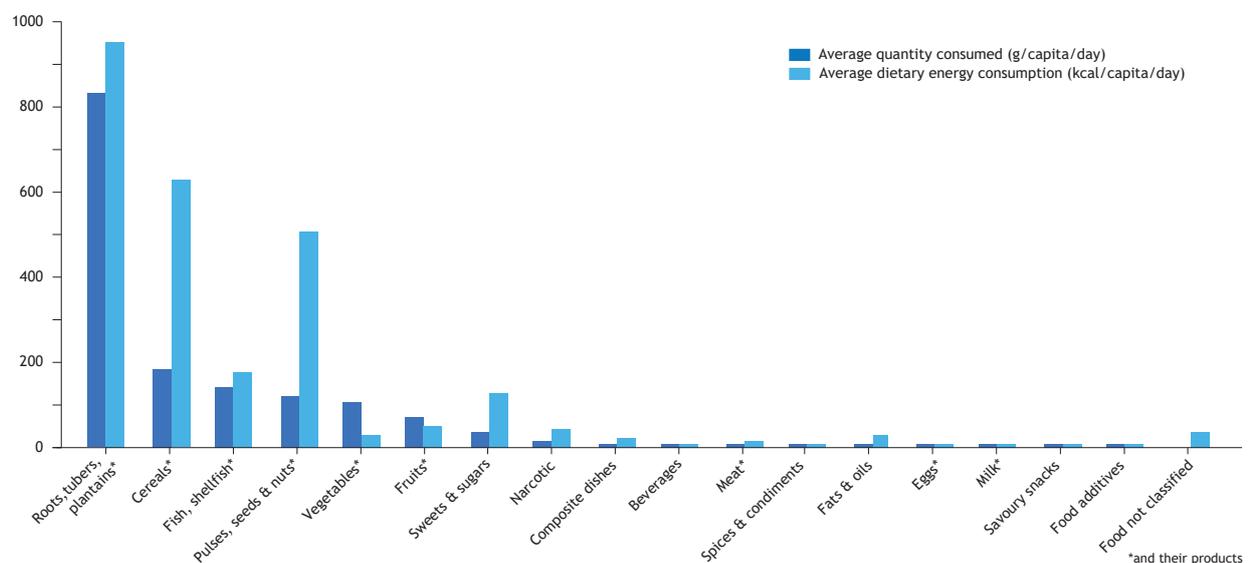
5.3.1 CONSUMPTION OVERVIEW

This section is largely drawn from Sharp and Andrew (2021) and Troubat, Sharp and Andrew (2021).

Food consumption in Solomon Islands, both in terms of quantity and energy, is dominated by roots, tubers and plantains and, to a lesser extent, by cereals. In terms of apparent quantity consumed, these two food groups, on average, account for almost 70 percent of edible food consumed. This is followed by fish and shellfish, pulses, seeds and nuts, and vegetables, which collectively account for around 20 percent of food quantity consumed. In terms of dietary energy, roots, tubers and plantains, and cereals make up around 60 percent of DEC (Figure 5.16). These are followed by pulses, seeds and nuts (including coconut), fish and shellfish, and sweets and sugars.

This preliminary assessment of apparent consumption in Solomon Islands does not provide insight into the consumption patterns of subpopulations, including urban and rural dwellers as well as women and children, but it does provide some insight into the diversity of diets based on the best available data. Diet diversity in these localised food systems is typically low, with diets consisting of rice, roots and tubers (often sweet potato), some green leafy vegetables, and fresh and canned fish.

Figure 5.16: Consumed quantity compared with dietary energy consumption (DEC) in Solomon Islands

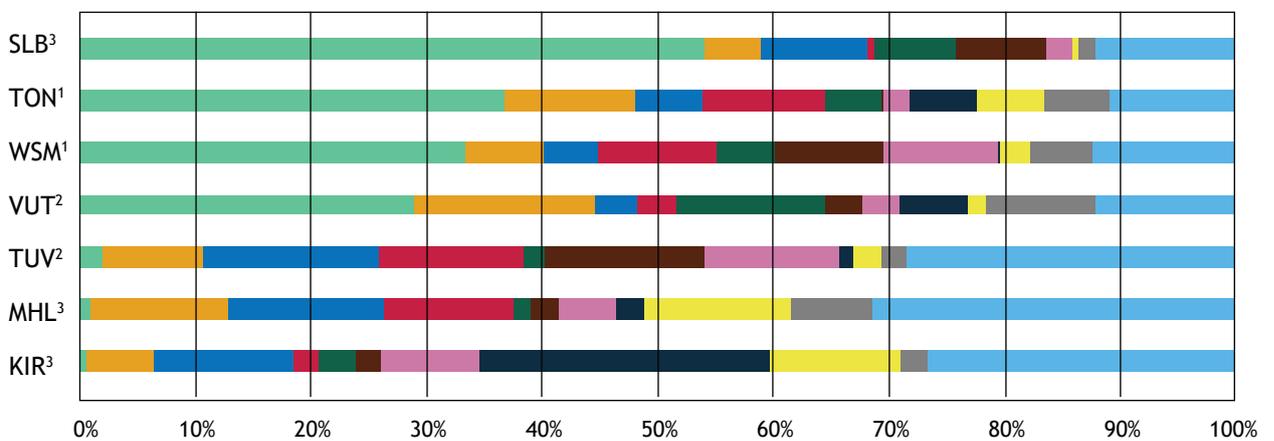


Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. [fao.org/documents/card/en/c/CB4459EN](https://www.fao.org/documents/card/en/c/CB4459EN), based on 2012/13 HIES.

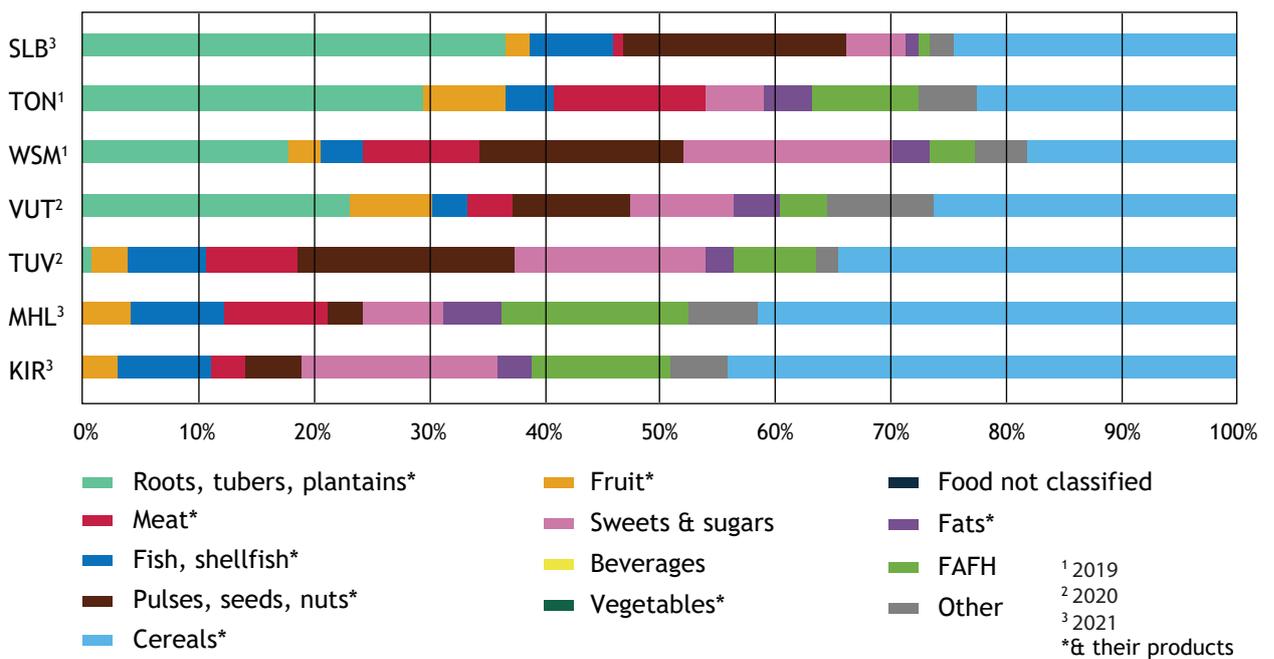
Diets in Solomon Islands, as in all Pacific Small Island Developing States (SIDS), appear high in energy-dense foods, such as root crops, cereals and coconut, and low in nutrient-dense foods, such as FNSV. Compared with other Pacific SIDS for which data are available, the diet in Solomon Islands remains relatively traditional, based on locally grown products (roots and tubers) and fresh fish, with low consumption of meat and meat products (Figure 5.17; Troubat, Sharp and Andrew, 2021). However, the contribution of imported foods is growing, particularly for products such as rice and wheat and particularly in urban areas, where these products are already staple foods. In addition to root crops, cereals, and coconut, fish and seafood are important to diets, accounting for more than 40 percent of the proteins available for consumption in the Solomon Islands.

Figure 5.17: Composition of per capita per day (apparent) consumption in Solomon Islands of main food groups denominated in (A) grams and (B) kilocalories in selected PICTs. FHFH = food away from home

A - Composition of (apparent) food consumption (grams per capita, edible portions)



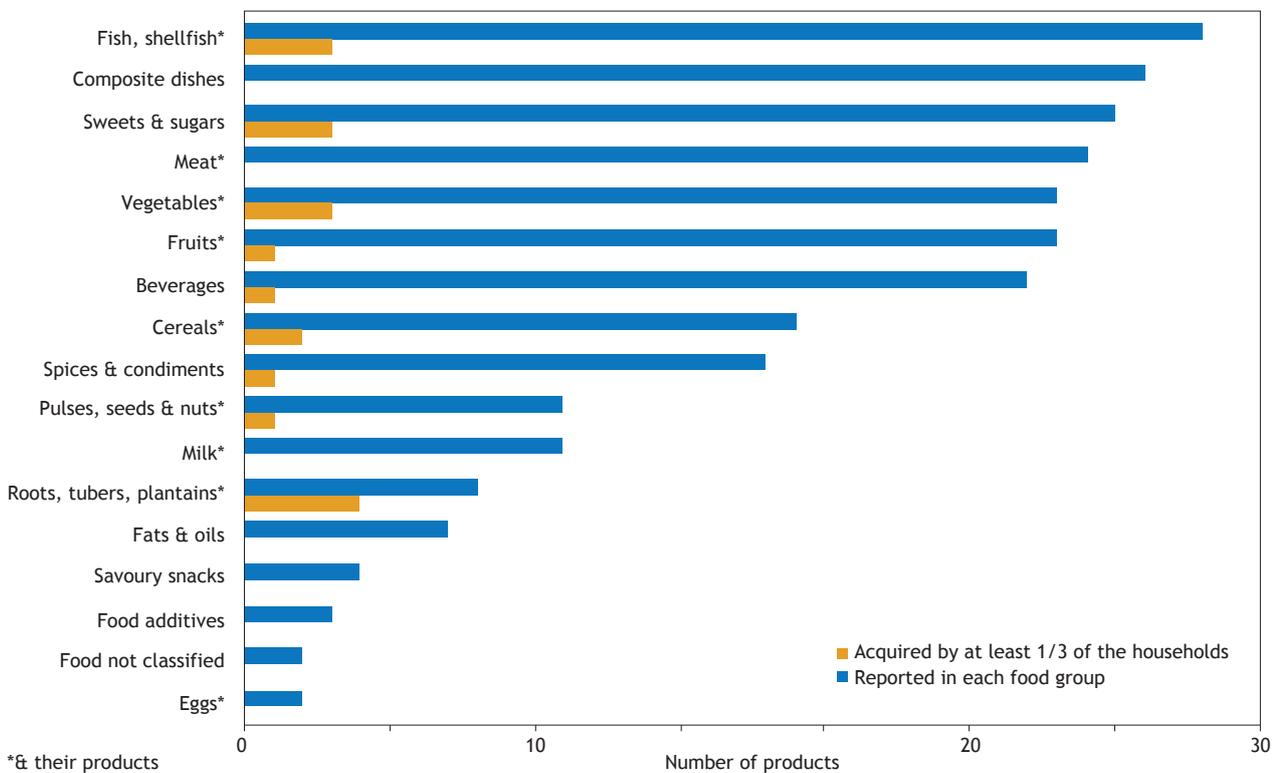
B - Composition of (apparent) dietary energy consumption (kcal per capita)



Source: Sharp, M.K. & Andrew, N.L. 2021. *Poverty, malnutrition and food security in Pacific Small Island Developing States*. Bangkok, FAO. [fao.org/3/cb5758en/cb5758en.pdf](https://www.fao.org/3/cb5758en/cb5758en.pdf)

In Troubat, Sharp and Andrew (2021), of the 296 food products reported in the survey, 22 contributed 90 percent of average national DEC (Figure 5.18), and only 13 contributed to 80 percent of the average DEC and were consumed by more than 50 percent of the households during the previous 2 weeks. With an average edible quantity consumed per capita of 150 g/day, rice is the main source of energy (19 percent of the total amount of dietary energy consumed), followed by brown coconut (95 g/day, which translates to 15 percent of total energy consumed per capita) and cassava (230 g/day, or 13 percent of total energy consumed per capita). With an average per capita consumption of around 40 g/day, cabbage is the most consumed vegetable, and is a rich source of vitamin A, vitamin C and calcium.

Figure 5.18: Number of products reported by food group, and number acquired by a third of households in Solomon Islands



Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. [fao.org/documents/card/en/c/CB4459EN](https://doi.org/10.2478/9789291044599), based on 2012/13 HIES.

These estimates are, however, based on food data collected in a household survey and do not inform on the intra-household allocation of food, which is required to better understand the dietary patterns of vulnerable groups, such as women, children and people who are impoverished or have a disability (Sharp and Andrew, 2021). In addition, further research is needed on data collected on the consumption of food away from home, especially in urban areas. Dietary energy sourced from food away from home appears under-reported, as anecdotal evidence suggests this is an increasing source of dietary energy among Pacific SIDS, especially those in urban areas where overnutrition-related morbidity is high.

5.3.2 MAIN TYPES OF FOOD CONSUMED AND THEIR SOURCE OF ACQUISITION

Sections 5.3.2 and 5.3.3 draw from Troubat, Sharp and Andrew (2021).

More than 70 percent of the dietary energy coming from roots, tubers and plantains, pulses, seeds and nuts, and fruits and vegetables are own produced, while around 90 percent of dietary energy coming from cereals, sweets and sugar, and fats and oil are purchased. Purchases and own production contribute equally to the average DEC of fish, and 10 percent of the dietary energy consumed from fish is received for free as a gift. With more than one household in two involved in livestock activities, own production contributes to only 15 percent of the dietary energy consumed from meat, and 20 percent is received for free – this is indicative of the importance of livestock for cultural purposes, including wealth accumulation and for ceremonies.

Most of the rice and noodles are purchased, but gifting remains an important source of food acquisition for many households, contributing to around 30 percent of the quantities consumed. The same applies for sweet potato (kumara) and fish, for which half of the quantities consumed were gifted. The percentage of households consuming a food product is a good proxy indicator of access to this product. This indicator alone does not say anything about the contribution of the food to the total diet nor the frequency of consumption. However, when the food contributes a large component of the total DEC and is acquired by most households, it can be considered as an essential food in the overall diet of the country, either because of consumer preference, or availability, affordability or physical ease of access to this food.

Almost all households (90 percent) consume rice and noodles, followed by sweet potato and cabbage. Around 80 percent of households consume canned tuna, although the average quantity consumed per capita at the national level is relatively low (around 11 g/day). With 70 percent of households consuming sugar, this food also plays a significant part to the overall diet in Solomon Islands. Finally, papaya is the only fruit consumed by at least one household in three.

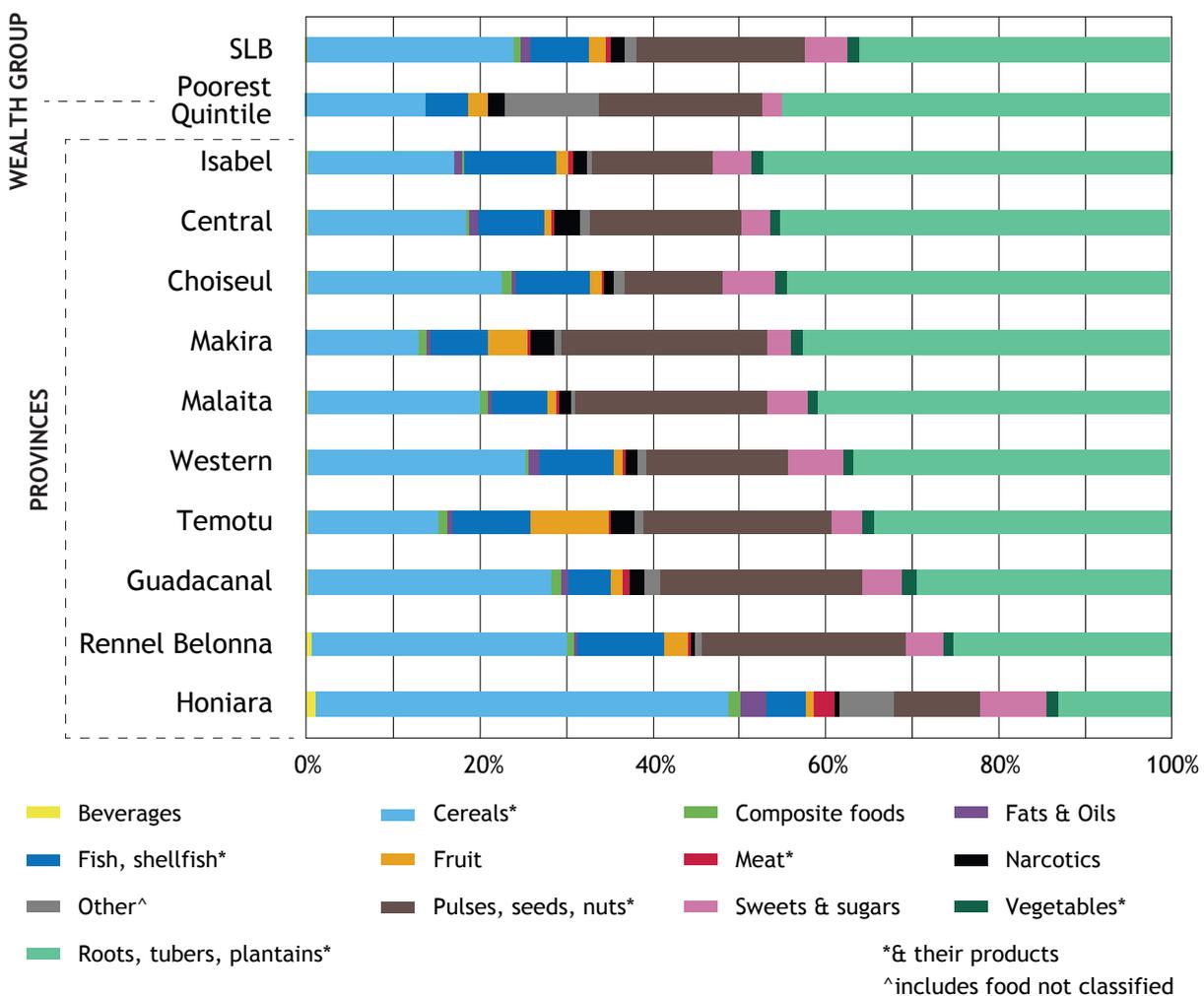
When products are further categorized according to the Pacific Guidelines for Healthy Living (SPC, 2018) groups of energy, protective or body-building foods, energy foods contribute to 85 percent of total DEC and, of these, 30 percent are energy foods that need to be limited or avoided (e.g. white rice and vegetable oil are energy-dense foods to limit, and pastries, butter, soft drinks and sugar are classified as energy-dense foods to avoid). Protective foods represent less than 3 percent of the total dietary energy consumed, while body-building foods represent 9 percent, mainly coming from fresh fish and lean meat. While energy-dense foods are contributing more to the overall DEC, it is important to recognize that more than two kilocalories in three consumed in Solomon Islands come from foods indicating a healthier diet compared with other Pacific SIDS (healthier diet share ranges from 30 percent in Kiribati to 53 percent in Vanuatu). However, in terms of contribution to the overall food budget, the foods to limit or avoid contribute to more than one-third of the total amount spent to acquire food.

Disparities in DEC occur between provinces of Solomon Islands. Central Province showed the highest level of DEC, and Choiseul Province and the urban capital of Honiara had the lowest levels. With an average of 32

foods reported by households in Honiara compared with 24 in the Central region, the diet seems, however, to be more diversified in Honiara. On average, the number of food products acquired by the households during the previous 2 weeks was the lowest in Malaita Province, with 20 food products but only 12 acquired by at least 50 percent of the households. In the provinces of Isabel, Central and Rennell and Bellona, eight food products were acquired by more than 80 percent of the households, which may mean that, in these regions, only those foods are the most affordable, available and meet more uniform consumer preferences.

There is evidence of disparities existing within regions and countries. Most of the kilocalories consumed in Honiara were purchased, whereas in the rural regions of Isabel and Makira-Ulawa, more than 70 percent of the kilocalories consumed were own produced. With 16 percent of the daily DEC coming from food received for free per capita –that is, more than 420 kcal/day – Rennell and Bellona is the region most dependent on dietary energy from this source of acquisition.

Figure 5.19: Contribution of food groups to average DEC by expenditure quintile and province



Notes: “Other” includes any data below 0.4 percent and food not classified. Food quantities adjusted by edible portion (e.g. 88 percent of an egg is edible). The edible quantities correspond to the amount of edible quantity as consumed by households. Guadalcanal does not include Honiara.

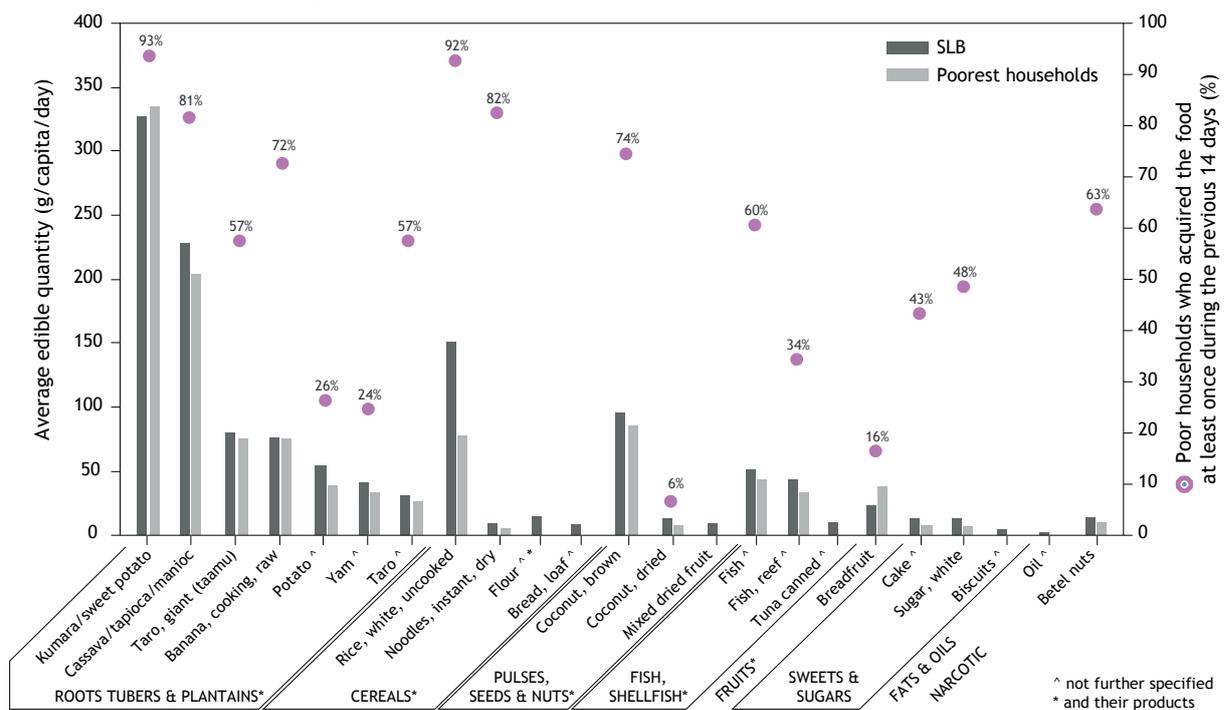
Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. [fao.org/documents/card/en/c/CB4459EN](https://www.fao.org/documents/card/en/c/CB4459EN), based on analysis of 2012/13 HIES.

In terms of diversity of the diet, roots, tubers and plantains contribute most of the dietary energy consumed in most provinces of Solomon Islands (Figure 5.19). Exceptions are Honiara, where cereals are the main food group consumed, and Guadalcanal, where both the cereals and tubers, roots and plantain groups contribute similarly to DEC. The contribution of sweets and sugar is the highest in Honiara, followed by Western and Choiseul provinces. Almost 10 percent of DEC consumed in the region of Temotu comes from fruits and vegetables, the highest proportion of all the provinces. The highest contribution of fish to total DEC is observed in Isabel Province, with more than 10 percent. The capital territory (Honiara) has the highest contribution of oils and fats, meat and prepared (composite foods containing ingredients from multiple food groups) foods compared with the other provinces.

5.3.3 CONSUMPTION PATTERNS OF THE LEAST WEALTHY PEOPLE

Compared with the national per capita average of 2640 kcal/day, people in least wealthy households consume less than 2000 kcal/day. Sweet potato (kumara), cassava and brown coconut together contribute 50 percent of the dietary energy consumed among least wealthy households, with per capita average quantities of 330 g/day, 200 g/day and 85 g/day, respectively (Figure 5.20). The quantity of rice consumed in least wealthy households is half the national average, but this product, together with sweet potato (kumara), remains the most accessible food, as more than 90 percent of households consumed these foods at least once during the previous 14 days (Figure 5.20). Fresh fish also plays an important role in the diet of the least wealthy households, as around 75 g/day of fish and reef fish (not further specified) is consumed on average per capita and is accessed by at least 34 percent of least wealthy households (Figure 5.20).

Figure 5.20: Access to, and quantity of, consumed food products (and their groupings), comparing average for Solomon Islands (SLB) and poorest quintile DEC



Source: Troubat, N., Sharp, M.K. & Andrew, N.L. 2021. *Food consumption in Solomon Islands: Based on the analysis of the 2012/13 Household Income and Expenditure Survey*. Honiara, FAO and SPC. Cited 18 June 2022. [fao.org/documents/card/en/c/CB4459EN](https://doi.org/10.2478/9789291054459), using ADePT and 2012/13 HIES data.

Households belonging to the lowest (poorest) quintile consumed less of all food groups, except roots, tubers and plantains, than households belonging to the highest expenditure quintile. With a per capita difference of 245 g/day between lowest and highest quintile households, cereals appear as the food group to which access is the least equal. Where own production contributes to 67 percent of the dietary energy consumed, the amount of food that is purchased still represents one-third of total household cash-based consumption expenditure on food. There is also a strong reliance on food received for free, as 30 percent of the households who consumed rice received it as a gift, and the same for fish.

5.3.4 INDIVIDUAL FACTORS

Individual factors are an important component of food systems and include a person's economic status, thought process, dreams and aspirations, and overall life situation. These factors all affect what foods a person buys and eats.

Lack of knowledge regarding the nutritional value of foods has been reported across all communities, which impedes informed choices regarding food consumption (Albert *et al.*, 2020). For example, Albert and Bogard (2015) reported imported foods such as noodles being perceived as "good". A recent study in Honiara found that while participants understood a traditional diet was healthier, these foods were considered unaffordable and less convenient (Horsey *et al.*, 2019).

Individual factors such as having a high income level and being married are positively associated with higher body mass index (BMI) among young adults. In the middle age groups, the highest income level is also positively associated with higher BMI. These adults with high incomes might consume higher energy food, contributing to weight gain, but this needs confirmation. Moreover, getting married might lead to more consistent meals and weight gain among the younger age group. These findings suggest that health professionals need to consider the influence of income level and marital status on lifestyle choices when planning interventions that promote healthy lifestyles (Tsuchiya *et al.*, 2021).

Growing urbanization is being accompanied by changing patterns of food consumption, and Honiara's urban population is largely dependent on markets selling fresh produce for its food supply (Georgeou *et al.*, 2018). The reduction in planting of garden foods has been identified by communities in Solomon Islands as contributing to the shift in diets. Rural farmers are increasingly unmotivated to plant local foods due to reduced crop yields. The time that gardening requires is considered a burden, particularly for women (given the long harvest cycle for some crops and lack of men participating in garden activities). Alternatives are available (e.g. rice), so there is considered to be less need to grow local foods (Albert and Bogard, 2015). Communities in Malaita also identified high consumption of store foods (e.g. rice, instant noodles and canned tuna) and inadequate consumption of local foods as the main issues impacting on people's health (Albert *et al.*, 2020).

Albert and Bogard (2015) linked nutrition issues to the growing preference for imported foods. Rice, noodles, ring cake and canned tuna have become common staples in households due to convenience and taste preference. Rice has a longer shelf life and can feed more people than local foods such as sweet potato. Rice is also readily available in local stores and fast to cook compared with local staples such as sweet potato and yam. Similarly,

ring cake (donut) is readily available in the village and schools (often marketed by women) and is a convenient breakfast and snack option. Noodles are preferred for “taste” by both children and adults, particularly as the instant noodles include a flavour sachet. Slippery cabbage is commonly eaten with noodles or tuna to improve the taste. Children often source their own money to purchase noodles for snack food through, for example, selling coconuts to local copra (dried coconut meat) producers (Albert and Bogard, 2015).

SECTION 6

COVID-19 PANDEMIC IMPACTS

The closing of borders to shipping, flights and travel due to the COVID-19 pandemic highlighted the dependence of Solomon Islands on imported food and medical supplies as well as agricultural and industrial inputs. Employment in the service sector experienced a greater net decline than employment in agriculture. Both the informal and the formal sectors saw declines, with the formal sector experiencing a stronger recovery than the informal sector. Women comprise the majority of sellers in the open-air fresh food markets that were disrupted due to COVID-19-related restrictions, with knock-on effects on household and village economies. Rural areas experienced lower cash flow and an increased circulation of people – those who moved out of Honiara and back to the provinces. A major change to markets in 2020 was reduced cash flow as well as fewer customers. In 2021, 39 percent

of vendors reported no change to prices since the start of the pandemic, 54 percent reported lower prices and only 7 percent reported that prices had increased. Supermarkets, stores and canteens were more likely to report higher prices compared with market vendors. Comparison between the market surveys conducted in 2020 and 2021 saw a general drop in the prices of key commodities, with the exception of fresh fish. A lot of people residing in the provincial urban centres felt the impacts of lockdown in Honiara as they rely on purchased processed food on a daily basis. In response to limited food access, many city dwellers established their own home gardens and fishing activities to complement households' diets, while others reduced general consumption of food and other consumables.

Sections 6.1, 6.2 and 6.3. Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

6.1 CHANGES TO THE FOOD SYSTEM RESULTING FROM THE PANDEMIC

Over the past two years, one major external driver, or shock, to the Solomon Islands food system has been the coronavirus disease (COVID-19) pandemic. Between 2020 and 2022, the food system has been affected via multiple pathways due to measures imposed to prevent or mitigate the spread of COVID-19, including: effects on the global economy; travel restrictions (including tourism); and disruptions to supply chains and food imports, including shipping delays (Farrell *et al.*, 2020; Iese *et al.*, 2021).

Solomon Islands had no COVID-19 cases until early 2022. However, on 25 March 2020, the Governor-General declared a State of Emergency as a response to the growing COVID-19 pandemic. The effects of the mitigation measures, such as market closures, disrupted livelihoods and placed food security at additional risk. The Solomon Islands State of Emergency response led to urban–rural migration, suspension of schools and education institutions, disruption of fresh food markets (in particular, urban markets) and shop operations (Tutuo, Farrell and Bogard, unpublished), and limited population movement and large gatherings of people. There were also reports of price gauging at the start of the pandemic. In response to this, the Government of Solomon Islands placed a price cap on some key commodities (GoSI, 2020).

The closing of borders to shipping, flights and travel demonstrated the dependence of the country on imported food and medical supplies as well as agricultural and industrial inputs. Heavy reliance on other countries for food means that serious supply fluctuations can occur if exporters decide to curtail or ban exports (FAO, 2020a). The existing challenges of agricultural production and a high degree of food import dependence within the region have the potential to exacerbate the impacts of COVID-19 responses. Given the unhealthy nature of many imported foods, however, it does not necessarily follow that COVID-19 pandemic will lead to a reduction in the quality of diets (Farrell *et al.*, 2021).

The economic impacts of COVID-19 mitigation measures were clear early in the pandemic. For example, a report in September 2020 stated that 77 percent of parents and caregivers surveyed in Solomon Islands and Papua New Guinea said they had trouble paying for food (Save the Children, 2020). A high-frequency phone survey on COVID-19 pandemic found there to be net loss in employment of between 7 percent and 11 percent of the precrisis workforce by June 2020 (World Bank and UNICEF, 2022). Employment in the service sector experienced a greater net decline than employment in agriculture from January to December 2020. While both the informal and formal sectors saw declines in the first half of 2020, the formal sector returned to 95 percent of January 2020 levels by December 2020, a stronger recovery than for the informal sector (World Bank and UNICEF, 2022).

The tourism sector in Solomon Islands, which is important for incomes and livelihoods, is vulnerable to natural disasters and shocks such as the COVID-19 pandemic, which stalled the tourism industry globally. Tourism and tourist-related services contribute noticeably to the GDP in Solomon Islands and provide 29.7 percent of total employment. The cessation of Solomon Islands tourism sector during COVID-19 pandemic created risks such as loss of livelihood and increase in poverty.

In terms of sociodemographic components of the Solomon Islands community most affected, it is important to note that women comprise the majority of sellers in the open-air fresh food markets disrupted due to COVID-19 related restrictions, with knock-on effects on household and village economies (Farrell *et al.*, 2021). For rural areas, two of the biggest changes observed were increased circulation of people – those who moved out of Honiara and back to the provinces – and reduced cash flow (Eriksson *et al.*, 2020). Ongoing impacts in relation to income are not indicative of recovery and suggest rural areas are less income secure than urban areas (World Bank and UNICEF, 2022).

6.2 SURVEYS OF EXTERNAL FOOD ENVIRONMENT IN 2020 AND 2021

To understand the impacts of the pandemic on the external food environment in Solomon Islands, a market and food retail store survey was undertaken in 2020, and repeated in 2021, to collect food availability and pricing information, qualitative information from vendors about the impacts of COVID-19 pandemic on their businesses, and vendor mapping information to monitor food and nutrition security as COVID-19 continued to unfold (Tutuo, Farrell and Bogard, unpublished).

The survey was undertaken in three major fresh food markets and surrounding retail stores in Solomon Islands – Auki, Gizo and Honiara Central Market. For each food vendor (market holder or store), enumerators conducted an interview about the vendor’s specific characteristics (Bogard *et al.*, 2021), where the food they sold was sourced, and the impacts of COVID-19 pandemic on their business. Enumerators then collected availability and price-per-volume information on the predetermined list of food commodities. Non-packaged, fresh food commodities were each weighed three times per commodity using digital scales and the average taken, in order to determine price in Solomon Islands dollars (SBD) per kilogram.

6.2.1 KEY RESULTS OF 2020 SURVEY

Overall, the majority of the vendors in all three markets and nearby shops indicated a “set schedule” of market or store operation. In 2020, disruptions to vendor operations were reported in Honiara and Gizo fresh food markets, which were reported to be related to the national and provincial government regulations to mitigate COVID-19 spread.

In terms of pricing of fresh food at open-air fresh food markets, in all study sites (Honiara, Gizo and Auki), market vendors reported more difficulties making ends meet than before the pandemic. One adaptation, seen in Honiara and Auki in particular, was dropping prices to respond to reduced cash flow and fewer customers visiting the markets (Table 6.1). Gizo Market and shop sellers were more likely to report putting prices up, which many survey participants reported reflected shipping costs and delays, and certain goods being more rare or intermittent in supply as a result.

Table 6.1: Percentage of survey respondents reporting price responses to the COVID-19 situation in Solomon Islands in 2020.

Market	Price drop	Price increase	More goods for same price	Stopped market	No effect
Auki	37	1	9	2	29
Gizo	3	12	0	2	33
Honiara	49	9	10	0	33

Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

The Government of Solomon Islands responses to COVID-19 pandemic in 2020, such as limiting opening hours or closing open markets, affected businesses in different ways. Honiara City Council (HCC) closed all market outlets in Honiara city – except for the central market – in March 2020. However, 80 percent of the food outlets (food shops, restaurants, etc.) remained open and provided normal services (FAO, 2020a). Auki did not have market shutdowns related to the COVID-19 situation, whereas Honiara had several “trial” lockdowns where markets were closed.

Almost two-thirds of Honiara market sellers, and almost a third of Gizo sellers, reported lockdowns impacted their businesses through reduced sales and income (Table 6.2). Honiara respondents were also more likely to report wastage of produce due to lockdowns and closures; for example, fresh produce prepared for a certain market day, then lockdowns were announced, and the produce could not be sold.

Table 6.2: Percentage of respondents reporting effects of government decisions on market operations in Solomon Islands in 2020

Market	No effect	Lockdown reduced sales & income	Reduced cash flow	Lowering prices	Increasing prices	Wastage
Auki	100	–	–	–	–	–
Gizo	24	29	19	7	–	–
Honiara	27	63	–	–	0.5	9

Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

A major change to markets in 2020 reported across all locations was reduced cash flow and customers in the market. Across all three locations, many respondents described a similar combination of changes: fewer customers with less cash to spend and slower days of sales. In Gizo and Honiara, there was strong agreement among respondents that the markets had fewer customers and sales were slower. Several reported the impacts of a lack of “big spenders” from hotels and restaurants, for example, which have suffered reduced business with travel bans and downturn in demand. In Auki, 36 percent of respondents thought there was no change to the spending habits of customers and 30 percent thought there were fewer customers – possibly reflecting a less tourism-dependent economy at this location.

A specific change to Honiara market in 2020 was the banning of sales of non-food items from the main market house (these stalls had previously occupied a large space at the front of the market house) which meant that vendors commented on the increase in space in the market, which had been usually overcrowded, with little space for vendors and customers to move about between stalls.

6.2.2 KEY RESULTS OF 2021 SURVEY

In the survey conducted in 2021, 39 percent of vendors overall reported no change to prices since the start of the pandemic, 54 percent reported lower prices and only 7 percent reported that prices had increased (Table 6.3). Supermarket, store and canteen vendors were more likely to report higher prices than market vendors (Table 6.3). Supermarket and store owners reported that, apart from general low cash flow, high wholesale prices on certain foods and low demand were also drivers for the price changes.

Vendors in Honiara, Gizo and Auki reported that they experienced impacts on their businesses related to COVID-19 pandemic (86 percent, 41 percent and 36 percent, respectively). The types of vendors experiencing impacts were supermarkets (83 percent), canteens (76 percent), vendors within markets (71 percent) and shops and stores (51 percent). Impacts included a decrease in customers that led to decreased sales or income and profit generation. Most vendors attributed this to low cash flow. The vendors also highlighted that the drop in customers' purchasing power has led to other impacts, such as decreased quantity of food products brought to sell at the market, more wastage and loss of food products (especially those in the markets) and longer market days.

Table 6.3: Price changes since COVID-19 pandemic by vendor type and location, 2021 survey results

		Higher		Lower		No change	
TYPE OF VENDOR	Total	n	%	n	%	n	%
Market vendor	571	26	4.6	329	57.6	216	37.8
Canteen	25	5	20.0	8	32.0	12	48.0
Shop/store	50	13	26.0	17	34.0	20	40.0
Supermarket	6	2	33.3	1	16.7	3	50.0
LOCATION	Total	n	%	n	%	n	%
Honiara	442	28	6.3	287	64.9	127	28.7
Auki	128	13	10.2	42	32.8	73	57.0
Gizo	82	5	6.1	26	31.7	51	62.2
Total	652	46	7.1	355	54.4	251	38.5

Source: Tutuo, J., Farrell, P. & Bogard, J.R. Unpublished. *Studies of external food environment in Solomon Islands in 2020 and 2021*.

Overall, 57 percent of vendors reported that they had made changes to the operation of their business due to COVID-19 pandemic. This was particularly evidenced among open-air fresh food market vendors (60 percent) and those in Honiara (73 percent). Vendors who reported that they had made changes to their business operation described changes such as reducing the quantity of the food they sell, lowering prices, reducing market days, changing hours of business operation, and changing the packaging of foods, especially for vegetables.

In terms of customer spending habits, 78 percent of vendors reported that these had changed as a result of COVID-19 pandemic, especially for market vendors. The majority of the vendors reported that customers were spending less, purchasing lower quantity foods, and were more selective. Similar observations were noted from fishers at the same sites.

Low sales associated with fewer customers and low cash flow was mentioned as one of the biggest challenge for vendors, in addition to ongoing challenges associated with unreliable transport, high cost of business operation, weather, pests, insects affecting production and harvest, high market fees, and resellers (especially for Honiara) (Tutuo, Farrell and Bogard, unpublished).

6.2.3 COMPARATIVE PRICING RESULTS FROM MARKET SURVEYS

Comparison between the market surveys conducted in 2020 and 2021 saw a general drop in prices of key commodities in 2021, with the exception of fresh fish. The most consistent finding in the pricing analysis was that the price of commonly consumed “protective foods” – (fresh fruit and non-starchy vegetables) decreased overall between 2020 and 2021. The pricing of “energy foods” between 2020 and 2021 were mixed. Starchy vegetable prices varied, although dropped consistently in Auki. There was not a notable change in the price of white bread. The price of instant noodles appeared to have decreased slightly in Honiara and Auki and increased slightly in Gizo. There was no consistent change in the price of sugar-sweetened beverages. Regarding “body-building foods”, the market price of fresh reef fish appeared to have increased significantly, especially in Honiara, and the price of milk (both fresh and powdered) appeared to have increased between 2020 and 2021 in all provinces. Additional information collected in 2022 will be used for comparative analysis with the 2020 and 2021 surveys in Honiara, Gizo and Auki.

Iese *et al.* (2021) also reported that Solomon Islands food purchases from village stores, markets and supermarkets declined due to the severe reduction of income from COVID-19 mitigation measures and increases in the price of foods. Households in both peri-urban and rural communities in Solomon Islands experienced difficulty accessing markets to sell produce during COVID-19 pandemic. Women reported that they could only travel once a week, instead of daily, to the nearest market at the border of Honiara city to sell their produce at the markets, as market outlets were closed.

The drop in market price for fruits and vegetables could potentially be due to increased home production (Iese *et al.*, 2021). In order to guarantee the continued production of root crops and vegetables for Honiara and the provincial markets, the Ministry of Agriculture and Livestock (MAL), identified a number of farmers with large areas for growing food crops in Guadalcanal and the other eight provinces (FAO, 2020a). The MAL also aimed to assist farmers with bush clearing, providing high-quality planting material and gardening tools, and facilitating contacts with local and export markets (FAO, 2020a).

6.3 MORE RECENT COVID-19 IMPACTS

In early 2022, Honiara experienced its first community transmission of COVID-19 and the city went into lockdown. While rollouts of vaccinations began in 2020, the vaccination coverage in Honiara was relatively low. In accordance with the government protocol, businesses (e.g. retail shops, wholesalers) in Honiara imposed restrictions requiring customers to be fully vaccinated (with proof via a Vaccination Card) to be allowed to enter shops. Central market vendors were instructed to be fully vaccinated and to wear masks in order to be able to sell their produce. Public transportation (e.g. buses and taxis) also imposed restrictions on the number of passengers allowed in a single trip. The Honiara Central Market was closed for some time and betel nut selling and street foods were banned across the city to reduce crowding and manage the spread of the virus.

To date there have been two lockdowns, both lasting 2–4 days, with police patrols conducted along the public roads and at the ports area. People were expected to buy in food in bulk, stock up their utilities (water and electricity), and all were expected to stay indoors. Prices of groceries increased in most shops as people rushed to buy in bulk prior to the lockdown. Market vendors also increased prices of fresh fruits and vegetables, and many people struggled to afford food or find enough food to feed the whole household. Most people living in settlements and outskirts of Honiara city earn their daily income as market vendors, and these lockdowns had a huge impact on them. People could only access canteens to buy their daily groceries.

Many people could not access and buy fresh vegetables, root crops and fruits and for most families had to live on processed food (e.g. tinned fish and noodles) for the lockdown period. During this first wave of COVID-19, a lot of people were unwell; however, the access to pharmacies was a challenge. Most had to rely on local remedies and be locked down in their homes until they were well. Communicating with the National Emergency Oversight Centre helpline to receive essential information about how to access transport and other basic medical needs was a challenge as the helpline was not easily reachable. Police officers were not patrolling some residential areas, making it difficult for many people to seek or receive medical assistance or other basic survival needs. In Honiara, most who had to access to social media (e.g. Facebook) shared their grievances on how they were coping with the lockdowns. The national Livelihood Sector Committee led by the MAL took on the biggest challenge of distributing food to almost every household in the city. Feedback indicated that some households missed out on food distribution, but the committee can be applauded for their efforts working through the city.

The provinces also felt the effect of the community transmission of COVID-19. Restrictions of ships and planes to the provinces reduced food supplies, which caused increased costs of food and other basic items in the provinces. Provincial governments, including Guadalcanal, Malaita and Western, placed restrictions on movements which affected food vendors bringing in their crops to sell at the main markets. In addition, vendors were mandated to get their vaccination to enable them to sell their produce at the main markets (Honiara and Gizo). This has caused vendor frustration and many complaints were expressed in media. A lot of people residing in the provincial urban centres felt the impacts of lockdown in Honiara as they have been relying on processed food on daily basis. The Government of Solomon Islands continues to advocate for vaccination, and international borders have been open since July 2022.

6.4 RESPONSES TO THE EFFECTS OF COVID-19 PANDEMIC ON THE FOOD SYSTEM

To mitigate the disruption in the food value chains caused by the market closures, farmers and vendors gradually established new informal roadside markets for fruits and vegetables in the Guadalcanal provincial areas (FAO, 2020a). Many city dwellers adjusted by establishing their own home gardens and fishing activities (Iese *et al.*, 2021) to complement households' diets.

A Food Bank initiative is sponsored by the Government of Solomon Island in collaboration with farmers and development partners, such as the Australian Government Department of Foreign Affairs and Trade (DFAT) and the United Nations Development Programme (UNDP), with the aim to build food reserves to support food supply and distribution in case of potential future lockdowns (FAO, 2020a).

As a result of reduced incomes, households implemented a range of coping strategies, with 60 percent of households spending from savings, 50 percent purchasing items on credit, and over a third borrowing from friends or family (World Bank and UNICEF, 2022). While households increased their purchases of processed foods such as noodles, or foods with longer shelf life, most households reduced general consumption of food and other consumables.

SECTION 7

INTRODUCTION: THE POLICY SPACE FOR THE FOOD SYSTEM IN SOLOMON ISLANDS

The Government of Solomon Islands has indicated its priority for a healthy and sustainable food system through its engagement with the United Nations Food Systems Summit (UNFSS) and national policy commitments. In 2021, the Ministry for Agriculture and Livestock (MAL) hosted a series of national food systems dialogues attended by over 60 people representing a range of government departments, non-governmental organizations (NGOs), academia, farmers, the private sectors and the Special Envoy of the United Nations Secretary General for 2021. The theme for the summit pathway was chosen as “*Food systems for health and wealth*”. While the countries identified priority milestones across each of the five Action Tracks for 2025–2030, leaders also made a commitment to spend the next 2–3 years examining, evaluating and translating their pathway into a workable framework of actions that align to food systems goals in the Sustainable Development Goals (SDGs).

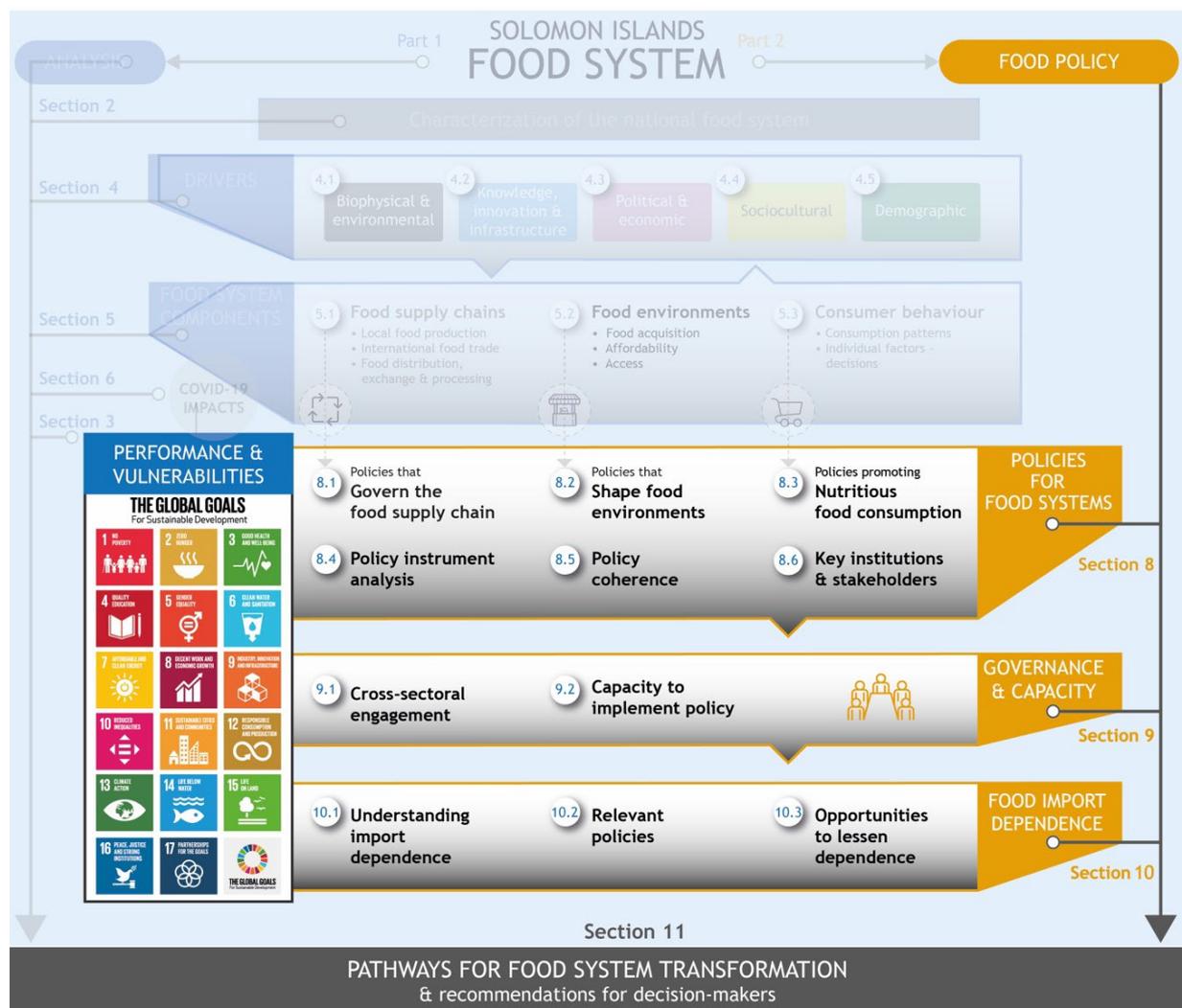
In Solomon Islands, improving access to sustainable and nutritious food for all has been recognized as essential for sustainable development by its inclusion in the SDGs. By 2030, Goal 2: Achieving Zero Hunger includes target 2.1 to “end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round”. Achieving food and nutrition security, and promoting sustainable food systems, are cross-cutting issues critical to achieving almost every SDG. For instance, unsustainable food production systems are a major contributor to climate change and environmental degradation, increasing vulnerability to disasters such as floods and droughts (Swinburn *et al.* 2019).

Work to promote a healthy and sustainable food system builds on the priorities articulated in the Solomon Islands National Development Strategy, for increased production and distribution of locally produced food to promote food security, food sovereignty and to improve livelihoods. A more effective food system (at community, provincial and national levels) could have a large

impact on food availability, food quality and health outcomes. Food is implicit under Objective 2 – poverty reduction, which includes poverty reduction strategies and rural development programmes, such as enhanced water and sanitation and agriculture, and Objective 4 – to nurture environmental sustainability and recovery. Nutrition is explicitly identified as a priority in Objective 3 – improve health services. Achieving gender equity is a core part of the National Development Strategy. Policy frameworks demonstrate strong awareness of the critical role of women in food production and distribution and recognize that women are more vulnerable to health and nutritional risks, many of which are passed on through gestation and early infancy. Activities for promoting gender-related food and nutrition issues are largely framed around education and awareness building, and primary health services delivered during pregnancy.

Building on the food system analysis in Part 1, Part 2 of this report describes the various policies that govern three core components of the food system: food supply chains, food environments and food consumption (Figure 7.1). In particular, we explore the interactions between policies and stakeholders involved in the food system, and examine governance and capacities for the food system.

Figure 7.1: A schematic of this report, focusing on Part 2, organized by the elements of the Solomon Islands food system



Source: authors analysis, adapted from HLPE (High Level Panel of Experts on Food Security and Nutrition). 2017. *Nutrition and food systems: A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome*. HPLE Report 12. fao.org/3/i7846e/i7846e.pdf

SECTION 8

ANALYSIS OF POLICIES FOR FOOD SYSTEM

This section provides a detailed analysis of policy priorities relevant to the food system in Solomon Islands, and spans production, food distribution, processing, access to markets and trade, as well as policies that directly shape food environments. A key policy overseeing all elements of the food system is the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030. Other critical policy sectors that influence food production are fisheries, women and youth. In addition to a clear focus on increasing production for livelihoods and export, there is also strong acknowledgement and prioritization of traditional production knowledge and methods, which includes traditional food crops. The commerce sector plays a key role in promoting food distribution, processing and access to markets, with a strong priority for micro, small and medium enterprise development. The Government of Solomon Islands has also established goals for greater

participation in export trade markets, and moving towards higher value-added products. The Lokol Kaikai Initiative is a key policy approach that supports action on all dimensions of the food system, including food environments. Overall, food system policies have a strong economic focus, with clear aims to improve primary production and maximize economic opportunity. In particular, trade and agriculture policy aims to increase the contribution of productive sectors to trade, while trade, agriculture and industry development policies all promote domestic value-adding. Building on current policy priorities and actions, there is an opportunity to re-orientate policy from its current focus on economic issues, to further consider environmental and health impacts of the food system. There is an opportunity for provincial governments to take a more active role in food system planning and activities.

8.1 POLICIES THAT GOVERN THE FOOD SUPPLY CHAIN

Food supply chains in this report include the activities and actors that take food from production to distribution, processing and markets domestically, and also prepare food for international trade markets. This section describes an analysis of the key policy documents that relate to different aspects of the food supply chain. These policies are detailed in Table 8.1

Table 8.1: Policies for food systems in the Solomon Island

Food system sector	Policy name
Agriculture and livestock	Agriculture Extension Policy (2017–2021)
	Solomon Islands Agriculture Sector Growth and Investment Plan (2021–2030)
	Livestock Policy Guidelines (2015–2019)
Fisheries	Ministry of Fisheries and Marine Resources Corporate Plan (2015–2019)
	National Aquaculture Development Plan (2018–2023)
	National Fisheries Policy (2019–2029)
Commerce and industries	Micro, Small and Medium Enterprises (SMEs) Policy and Strategy (2012)
	Ministry of Commerce, Industry, Labour and Immigration Corporate Plan (2020–2024)
	Trade Policy Framework (2015)
Finance, trade and investment	Solomon Islands Trade Policy Statement (2015)
	Ministry of Finance Corporate Plan (2020–2022)
	The Budget Speech (2021)
Infrastructure and planning	National Infrastructure Development Plan (2013–2023)
	Ministry of Infrastructure Development Corporate Plan (2016–2020)
	National Water Resources and Sanitation Policy (2017)
	Greater Honiara Urban Development Strategy and Action Plan (2018–2035)
	Ministry of Rural Development Corporate Plan (2020–2023)
Health and education	National Health Strategic Plan (2016–2020)
	Education Strategic Framework (2016–2030)
	National Education Action Plan (2016–2020)
	National Youth Policy (2017–2030)
	National Youth Employment and Entrepreneurship Strategy (2017–2030)
	Multi-sectoral National NCD Strategic Plan (2019–2023)
	National Food Security, Food Safety and Nutrition Policy (2019–2023)
	National Strategy for the Economic Empowerment of Women and Girls (2020–2023)
	National Healthy Settings Policy (2021)
	National Health Promotion Policy (2021)
Lokol Kaikai Initiative (2019–2023)	
Legislation	Protected Industries Act 1954
	Environmental Health Act 1980
	Planning and Development Act 1980
	Consumer Protection Bill 1995
	Measurements and Weights Act 1996
	Pure Food Act 1996
	Price Control Act 1996
	Labour Act 1996
	Environment Act 1998
	Customs and Excise Act 2003
	Foreign Investment Act 2005
	Biosecurity Act 2013
	<i>Fisheries Management Act 2015</i>

8.1.1 POLICIES STIMULATING LOCAL FOOD PRODUCTION

Food production is the process of growing, harvesting or fishing for primary food products. A key policy overseeing food production is the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030). The policy aims for “a sustainable, resilient, competitive and profitable agriculture sector enhancing economic growth, food sovereignty and prosperity for all Solomon Islanders”, operationalised through research, farming technological development, improved land-use planning and biosecurity. The plan includes strategies to improve efficiency and profitability across the sector, and to strengthen institutional capacity and accountability. It aims to achieve this through enhancing food production for both consumption and export, particularly in highly resilient food crops and livestock. The plan identifies ten key commodities for priority production, many of them important food crops, with specific targets – five that will have production bolstered for import substitution (rice, poultry, beef, pork, eggs), and five that will have production bolstered for export (copra, crude coconut oil, virgin coconut oil, cocoa beans, kava). The promotion of these ten commodities will be achieved through the provision of inputs to farming (e.g. seedlings, tools, livestock), training and capacity building for producers (including emphasizing support to women and youths). Services being planned include technical and advisory expertise not commonly available to primary producers, such as on-site soil analysis improvement consultations, animal health laboratories and veterinary services, business development centres and industrial parks, machinery and technology centres offering maintenance, biosecurity surveillance and pest eradication. The plan also introduces new opportunities for greater leveraging of public procurement as an incentive to maximize production.

The Solomon Islands Agriculture Sector Growth and Investment Plan (2021–2030) adopts as a key mission to enable “enhanced food and nutrition security”, with activities to shorten food supply chains, diversify crops for nutrition and disaster resilience, enhance rice self-sufficiency, and provide inputs to village-based livestock farming. For example, the plan ensures the conservation, multiplication and distribution of fruits and vegetables through seed preservation and seedlings. The plan specified a range of research activities to guide food security strategies, including: documentation of traditional practices of production and preservation; identification of nutrient-dense species; feasible technological enhancements for harvesting and post-harvest food handling; and storage of fruits and vegetables. Examples of research topics include fermentation, hydroponics and seaweed fertilization. The growth and investment plan will be operationalized against farm production in part by the Agriculture Extension Policy (2017–2021) to ensure that the investment plan brings benefits to farmers across the country. The Extension Policy will focus on extending the reach of information and communications technology (ICT) improvements and ongoing capacity development. It also includes a strategic area to “increase engagement with women” to capitalize on the role of women in food production and household food security. It calls on the sector to re-establish and resource a women’s extension service and to offer household gardening support programmes. The policy states that it will increase engagement with youth by re-establishing school gardening programmes, and pique youth interest through agribusiness and farming. The growth and investment plan will envelope strategies under the Livestock Policy Guidelines (2015–2019), to lift smallholder livestock capacity, including poultry, pigs, chickens and honey bees. Nutrition and food security are identified as a key purpose of the productive sector in their policies (agriculture, fisheries and livestock).

The National Fisheries Policy (2019–2029) is the leading policy for the conservation, management, development and sustainable use of the fisheries and aquatic resources of Solomon Islands. It establishes the need for inshore (coastal) small-scale fisheries for food security and household income as well as safeguarding inshore and inland fisheries and associated ecosystems and ecosystem services, for good nutrition and increased socioeconomic benefits. It calls for all fisheries under customary marine tenure to be managed by community-based resource management tools, while all commercial species of interest will be managed through national management plans. In addition, endangered and threatened species will be managed in accordance with international management measures to which Solomon Islands is party, and through targeted strategies and operational plans. The policy also acknowledges that new sources of fish are needed to meet future food security requirements, and aquaculture is one means of supplying future demand. The National Fisheries Policy recognizes the critical role of fish in the diets of Solomon Islanders for nutrition and non-communicable disease (NCD) prevention. The policy outlines strategies to safeguard inland and inshore fisheries and establish aquaculture to protect nutrition and food security. Though not specific to nutrition, strategies include customary marine tenure, improved fisheries management planning and improved quota management.

Commodities for aquaculture development will be prioritized using the National Aquaculture Development Plan (2018–2023) with an integrated strategic and legislative framework to support development and management of a sustainable aquaculture sector. Aquaculture is noted as a key strategy for promoting rural livelihoods, food security, economic return and stock enhancement. The Ministry of Fisheries and Marine Resources Corporate Plan (2015–2019) includes a focus on fisheries resource and ecosystems management to strengthen the contribution of small-scale fisheries to food and nutrition security, though many of the indicators relate to revenue generation and investment planning.

The Finance Minister's annual Budget Speech (2021) called for increased focus on food security and nutrition in both urban and rural areas. As agriculture is an important economic sector, the Budget Speech prioritizes assisting farmers to maintain a productive and strong agriculture sector primarily by providing technical and financial assistance both directly and indirectly (e.g. reducing duty rate for agricultural tools to make them more affordable). It is acknowledged that farmers are critical in reducing poverty in Solomon Islands in both urban and rural areas, as is prioritizing increased production and productivity of the livestock and crops sector. This is particularly relevant for supplying domestic and export markets, which is linked to food security and livelihood. The Budget Speech focuses on economic benefits relating to supporting environmental and climate-change legislation review and development, and improving national waste and pollution management programmes. Further environmental objectives include protecting, preserving and promoting the biological diversity, ecosystems and conservation of Solomon Islands, and developing a resettlement policy for those residing in low-lying atolls who are highly vulnerable to climate change. The Budget Speech outlines the need for the strengthening and development of the fisheries sector and fisheries resources such as aquaculture by increasing promotion of onshore fisheries and tuna processing, particularly for rural communities.

Similarly, the National Strategy for the Economic Empowerment of Women and Girls (2020–2023) frames food production as an economic opportunity for women. This plan offers support for women's businesses

through enterprise development and training, and gender mainstreaming, with particular focus on agricultural and fisheries activities for rural women. This plan also highlights the need for cross-ministerial engagement to achieve these goals, including with the MAL, Ministry of Fisheries and Marine Resources (MFMR) and Ministry of Commerce, Industry, Labour and Immigration (MCILI). The plan calls for to improving access to land and development opportunities that will increase the participation of women in fisheries and agriculture, and their ownership of resources. The National Youth Policy (2017–2030) offers food production and entrepreneurship as future economic opportunities for women and youths. There is a National Youth Employment and Entrepreneurship Strategy (2017–2030). This strategy focuses on entrepreneurship within the agriculture, fisheries and trade sectors, including the establishment of youth employment, empowerment and entrepreneur programmes, with the aim of assisting youth in obtaining employment, business training and financing for small businesses.

Sustainability, conservation and biodiversity and agrobiodiversity related to both marine and land food production is a cross-cutting theme relevant to production, evident in policy documents across multiple sectors including MAF (Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030), MFMR (National Fisheries Policy 2019–2029), Ministry of Environment Conservation and Meteorology (National Biodiversity Strategy and Action Plan for the Solomon Islands 2009) and Ministry of Health and Medical Services (MFMS) (National Food Security, Food Safety and Nutrition Policy 2019–2023). There is also strong acknowledgement and prioritization of traditional production knowledge and methods, which include traditional food crops (Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030; National Biodiversity Strategy and Action Plan for the Solomon Islands 2009; National Food Security, Food Safety and Nutrition Policy 2019–2023).

8.1.2 POLICIES ADDRESSING NATIONAL-LEVEL FOOD DISTRIBUTION, PROCESSING AND ACCESS TO MARKETS

This stage of the food supply chain entails the connection between primary production and the transport and preparation or value-adding of a food commodity for domestic or export markets.

The Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030) extends its support “beyond the farm” to support business development and market participation across the value chain. The plan includes development of technical and advisory services not commonly available to primary producers and small businesses; for example, business development centres and industrial parks, equipment measuring and calibration, and standards certification. It aims to build collaboration by establishing and strengthening farming and livestock associations and cooperatives (particularly for livestock and cocoa operations), and the facilitation of new public–private partnership across the food chain. The plan also introduces new opportunities, such as greater leveraging of public procurement as an incentive to maximize production, and to facilitate market access and improve reliability and safety of supply for export. The Solomon Islands National Fisheries Policy (2019–2029) includes a focus on better controlling the harvest, processing and export of tuna and other canned fish, which will be achieved by facilitating better public–private partnerships.

The Ministry of Commerce, Industry, Labour and Immigration Corporate Plan (2020–2024) aims to drive private-sector development and growth, by investigating market opportunities, supporting micro, small and

medium enterprises (SMEs) with industrial centres, and improving access to technology, information and research. Promotion and development of food processing and manufacturing is a core aim, operationalized primarily through the Micro, Small and Medium Enterprises (SMEs) Policy and Strategy (2012), which promotes a culture of entrepreneurship, and offers advisory support with business establishment. The plan also includes innovation and technological capacity building for SMEs, strategies for product development and eco-technology, and farming entrepreneurship and management programmes. The plan includes to offer training in food product development, processing, manufacturing and promotion, tax incentives to promote value-adding (farming and processing), and a special package of incentives for SMEs to stimulate participation in food processing and farming. The plan has policy actions in areas such as agribusiness, the tuna industry, horticulture industries and the copra/coconut industry. It emphasizes the involvement of women and youth, though mechanisms for doing this are not specified.

The Ministry of Infrastructure Development Corporate Plan (2016–2020) will also help overcome challenges associated with bringing food to market by enabling more reliable and sustainable infrastructure and transport services. This plan calls for transport services for the rural population to access local and international markets and health facilities.

The Ministry of Rural Development Corporate Plan (2020–2023) outlines strategies including assisting with market access via online marketing of agricultural products and providing market information to farmers.

8.1.3 POLICIES PROMOTING INTERNATIONAL FOOD TRADE

This aspect of the food supply chain is where commodities or value-added products are prepared and marketed for their entry into the international market.

Solomon Islands has established goals for greater participation in export trade markets in the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030) for high-value crops, honey and livestock. The plan will achieve this by supporting increased productivity against commodities with export potential, improving food processing, reducing the complexity and inefficiencies of exporting manufactured products (“seamless trade”), improving biosecurity capacities, and addressing barriers to trade by developing export protocols and certification systems. Similarly, the Solomon Islands National Fisheries Policy (2019–2029) aims to improve the standard of value-adding on marine resources so they may be suitable for export markets, and to explore opportunities for aquaculture to be developed for export.

The Ministry of Commerce, Industry, Labour and Immigration Corporate Plan commits to promoting trade and competition through market research, trade shows, product promotions, and through development of standards and certification. In relation to the agriculture sector, the Solomon Islands Trade Policy Statement (2015) outlines an interest in moving towards higher value-added products rather than unprocessed exports, and to promote “backward linkages” that spur SMEs to achieve the scale necessary to participate in export markets.

Solomon Islands is a member of two regional agreements. Products imported from other countries in the Melanesian Spearhead Group are exempt from import taxes. For example, Coke products imported to Solomon

Islands are produced in Papua New Guinea. Solomon Islands is a signatory to the Pacific Island Countries Trade Agreement, which requires that the country reduces import tariffs to zero on most traded products (although this agreement includes a list of exemptions, including trade in alcohol and tobacco products).

According to the *Customs and Excise Act 2003* Finance Ministers have within their powers to impose taxes on imports, exports or goods produced in the Solomon Islands, as well as to revoke duties, with Cabinet approval. Most goods, and all foods and non-alcoholic beverages, are taxed under a standard rate of 10 percent import excise, in addition to 19 percent Goods Tax, against the Harmonised Tariff System. Import tax collection is fully automated since the adoption of Automated Systems for Customs Data (ASYCUDA) system, thus collection of tax at this point represents an efficient way to collect consumption tax.

The Solomon Islands Trade Policy Framework (2015) recognizes the need to protect health more broadly, and to include health agencies in trade policy setting. The framework reiterates the importance of health and safety regulations, specifically the *Pure Food Act 1996*, to protect health. Aligned to Codex Alimentarius, the Pure Food (Food Control) Regulations 2010 shape food quality and safety legislation in Solomon Islands by offering regulations around food packaging, food contents, food labelling, advertising and food claims, food and commodity hygiene and safety, and restrictions on breastmilk substitutes. The regulations mandate fortification of wheat flour and rice (iron, folic acid and zinc) and salt (iodine). They delegate regulatory oversight and enforcement of the plan to the MHMS.

8.2 POLICIES THAT SHAPE FOOD ENVIRONMENTS

Food environments are the “interface” between people and the food system (Turner *et al.* 2018). Critical dimensions of the food environment include product qualities, availability, affordability, desirability and convenience as they are experienced by individuals and communities.

Though the National Health Strategic Plan (2016–2020) calls for the development of legislation to address high-energy foods and beverages, reduce childhood malnutrition and promote healthy food environments, these issues are largely addressed through three main food policies. The first is the Multi-sectoral National NCD Strategic Plan (2019–2023), which sets out the key strategies for the prevention and control of NCDs, and the monitoring and evaluation of progress against key targets. The NCD targets for 2023 in the Solomon Islands include to reduce sodium intake by 30 percent, and to prevent further increases in the prevalence of hypertension, diabetes and obesity. Approaches to promoting healthy diets are centred around educating the public on healthy eating, sensitizing stakeholders on the need to create healthier food environments, and to legislate for better food environments, including fiscal policies to reduce consumption of processed foods. Regarding food pricing, the NCD strategy includes recommendations to review legislation to reduce incentives for production, trade and consumption of foods contributing to NCDs, particularly through fiscal measures. Solomon Islands has already adopted a sugar-sweetened beverage tax, and price controls are being applied in the *Price Control Act 1996* to prevent price fluctuations for food security and equity purposes, but not with an explicit nutritional criteria underpinning the foods subject to price control.

The second key policy relevant to the promotion of healthy food environments is the draft National Food Security, Food Safety and Nutrition Policy (2019–2023). Although this policy is not endorsed, it articulates government priorities relevant to food environments and nutrition. The National Food Security, Food Safety and Nutrition Policy (2019–2023) calls to “improve affordability and accessibility to food items”, and for the development and monitoring of standards that can underpin the restriction of imports for foods high in fat, salt and sugar. There is potential to use food standards to underpin a range of policies that will improve food environments – including: restrictions on marketing of unhealthy foods, innovative approaches that incentivize food producers to formulate, market and distribute nutrient-rich locally processed foods, restrictions on the use of sugar, sodium and unhealthy fat in food manufacturing – and to shape public food procurement (e.g. catering, school meals programmes).

The third policy relevant to food environments is the Lokol Kaikai Initiative (2019–2023) which aims to improve access to, and affordability of, local foods, primarily through programmes that promote local agriculture and fisheries production, post-harvest handling and storage, marketing, processing and retail. This action-oriented framework relies on implementation across a range of government stakeholders and sectors, including MAL, Ministry of Education and Human Resources Development (MEHRD), MCILI, Ministry of Finance and Treasury (MOFT) and MFMR, as well as civil society groups such as Kastom Gaden Association (KGA). The plan will be overseen by a Lokol Kaikai Komiti. The operationalisation of this plan is still being established as it was only recently endorsed.

The fortification of wheat with iron, zinc, thiamine, riboflavin, niacin, and folic acid was stipulated in the Pure Food (Food Control) Regulations 2010. The Food Fortification National Committee (FFNC) in 2015 moved to amend the legislation to mandate the fortification of rice with iron, folic acid, zinc, thiamine and niacin. To promote the protection of breastfeeding, the *Labour Act 1996* mandates 12 weeks of paid maternity leave for women and allows that women be supported to breastfeed for up to 2 hours/day, with no interruption to remuneration.

Existing policy measures to facilitate domestic food transport and marketing implicitly support access to domestically produced foods in urban areas. The Ministry of Infrastructure Development Corporate Plan (2016–2020) includes policy measures to upgrade market infrastructure and roads.

Urban planning policy is an important contributor to food access; however, there is no specific mention of food in the *Planning and Development Act 1980*. Relevant to food access (and thus to import substitution), one of the long-term objectives of the Greater Honiara Urban Development Strategy and Action Plan (2018–2035) is: “Poverty alleviated across the whole of the Solomon Islands, basic needs addressed and food security improved; benefits of development more equitably distributed.”

The price of foods is impacted by the *Price Control Act 1996* (Table 8.2), which limits the price mark-up applied to selected foods. More detail on food environment policy, in relation to nutritional implications, is provided in Section 9.

Table 8.2: Foods under price control, Solomon Islands

Food	Food subcategory	Honiara	Gizo	Auki	Tulagi	Kira Kira	Buala	Lata
		<i>[Maximum retail selling price] maximum percent mark-up</i>						
Milk	Nestle Sweetened Condensed Milk	13%	13%	13%	14%	14%	14%	15%
	Nestle Sunshine Instant Full Cream Milk Powder	13%	13%	13%	14%	14%	14%	15%
Meat	Imperial Corned Beef (Red)	13%	13%	13%	14%	14%	14%	15%
	Imperial Corned Beef (Blue — with cereal)	13%	13%	13%	14%	14%	14%	15%
	Ox & Palm Corned Beef	13%	13%	13%	14%	14%	14%	15%
	Ma Ling Luncheon Meat	13%	13%	13%	14%	14%	14%	15%
	Peck's Braised Steak & Onions	13%	13%	13%	14%	14%	14%	15%
Fish <i>(maximum price in SBD per tin)</i>	Solomon Blue	91.8	9%	9%	10%	10%	10%	11%
	Solomon Blue (Special)	3.4	9%	9%	10%	10%	10%	11%
	Taiyo Skipjack Tuna	2.75	9%	9%	10%	10%	10%	11%
	777 Mackerel (with or without tomato sauce)	3.4	13%	13%	14%	14%	14%	15%
Sugar	all brands	13%	13%	13%	14%	14%	14%	15%
Flour	all brands, plain and self-raising	13%	13%	13%	14%	14%	14%	15%
Rice	polished rice — local purchases (all brands)	9%	9%	9%	10%	10%	10%	11%
	polished rice — direct imports (all brands)	9%	9%	9%	10%	10%	10%	11%
Cooking oil	all brands	13%	13%	13%	14%	14%	14%	15%
Cabin or navy biscuits	all brands produced locally	13%	13%	13%	14%	14%	14%	15%
Bread <i>(SBD per unit)</i>	450 g standard white loaves	1.05	N/A	N/A	N/A	N/A	N/A	N/A
	900 g standard white loaves	2.1	N/A	N/A	N/A	N/A	N/A	N/A

Source: Price Control Act 1996.

8.3 POLICIES PROMOTING NUTRITIOUS FOOD CONSUMPTION

Consumption is the point at which a consumer is making decisions around what foods to acquire, and how to prepare and consume them. While food consumption patterns are largely shaped by environmental drivers, including food environments and food systems, strategies to motivate healthy behaviours are important to support healthier food consumption.

Dietary guidelines are a critical tool for healthy dietary promotion. Solomon Islands already has in place food-based dietary guidelines aligned with the Pacific Guidelines for Healthy Living (SPC, 2018). The draft National Food Security, Food Safety and Nutrition Policy (2019–2023) (NFSFSNP) also calls for the adoption of child-specific dietary guidelines and school feeding programmes for vulnerable groups. Solomon Islands is also placing strong emphasis on increasing access to high-impact nutrient interventions, which comprise a package of essential interventions for nutrition, including breastfeeding promotion, infant and young child feeding, growth assessment and action, and micronutrient supplementation. Community-based management of acute malnutrition is not specified, though this may form a part of these interventions. Hospitals in Solomon Islands are encouraged to seek “Baby-friendly Hospital” certification, and all nurses and health workers are trained in breastfeeding promotion. Policies reiterate the promotion of fortified products (NFSFSNP, Lokol Kaikai Initiative, MAL Corporate Plan), and call for better dissemination of materials promoting nutrient composition of crops and fortified foods.

The Multi-sectoral National NCD Strategic Plan (2019–2023) seeks to raise awareness of NCDs at a political level through briefing papers, advocacy meetings and action by parliamentarians. Approaches to promoting healthy diets are centred around educating the public on healthy eating, sensitizing stakeholders on the need to create healthier food environments, featuring behaviour-change communications, social marketing, mass media, event promotion and capacity building in food preparation, aimed at building public and consumer awareness around safe, healthy and appropriate foods.

The National Health Promotion Policy (2021) aims to improve the health of Solomon Islands by: promoting healthy lifestyle, healthy setting, disease prevention and wellness; empowering individuals, families, groups and communities to attain a desired state of health and well-being; advocating for healthy public policy, creating supportive environments, strengthening partnerships and social support for healthy action; and monitoring and evaluation towards the enhancement of high-quality and equitable health promotion services. Priorities for nutrition include: supporting awareness and communication strategies on nutrition, food safety and food security as outlined in the National Nutrition Plan; the implementation of health promotion activities in the existing national nutrition policy; and enforcement of food safety measures through awareness. The National Health Promotion Policy (2021) is operationalised by the National Healthy Settings Policy (2021), which was also endorsed in 2021 and provides a framework for action at the provincial and community level. Key settings include the village, school, marketplace and workplace settings. In relation to nutrition, the policy identifies

an opportunity for school guidelines to regulate and control selling of unhealthy foods in school compounds, including school canteens, and to improve infrastructure for food in local markets to enhance safety and quality.

The Multi-sectoral National NCD Strategic Plan (2019–2023) includes school food promotion programmes, including the use of school food guidelines, and has a focus on promoting health and nutrition within education institutions. The Education Strategic Framework (2016–2030) aims to build knowledge and skills to promote sustainable development, but it does not elaborate on the specific role of education institutions in delivering on food and nutrition strategies. It does not reference approaches for health promoting schools, or school food policies or promotion. The National Education Action Plan (2016–2020) outlines how the sector will improve access, quality and management of education services, including early childhood, secondary and tertiary education. There is mention of using early childhood education as an opportunity to promote nutrition, but the promotion and creation of healthy food environments are not explicitly mentioned.

The National Youth Policy (2017–2030) supports consumer calls on the health sector to empower youths to engage in NCD-related issues to raise their awareness of diet-related causes of NCDs, so that “at least 75 percent of all youths adopt good nutritional practices.”

8.4 ACHIEVING FOOD SYSTEMS GOALS RELATED TO ECONOMIC OPPORTUNITY, HEALTH AND ENVIRONMENTAL SUSTAINABILITY: ANALYSIS OF POLICY INSTRUMENTS

In this section, we focus specifically on the policy sectors impacting on food supply, in order to examine how multiple food system priorities are integrated, within the sectors that directly govern food production, processing, trade and distribution (Table 8.2). This analysis indicates that food systems are core to achieving economic policy goals, policy objectives related to environmental sustainability, and healthy diets. These are also evident in concerns for food system stakeholders in Solomon Islands related to declining agricultural production, food import dependence, the impacts of climate change on natural resources, and the widening gap between food supply and demand.

8.4.1 FOOD SYSTEM POLICY APPROACHES TO PROMOTE ECONOMIC OPPORTUNITY

Food system policies in Solomon Islands have a strong economic focus, with clear aims to improve primary production, and maximize economic opportunity, including creating employment and sustainable livelihoods. In particular, trade and agriculture policy aim to increase the contribution of productive sectors to trade, while trade, agriculture and industry development policies all promote domestic value-adding.

A range of policy tools are being applied to promote production and maximize economic opportunities. Authoritative tools are being used to regulate the environment to protect primary production; for example,

fisheries management schemes and land allocation and zoning. The *Protected Industries Act 1954* was adopted to restrict imports of products that may impair local industry development. Legislation has also been used to establish a more transparent set of rules for commercial engagement via the *Consumer Protection Act 1995*, the *Measurements and Weights Act 1996* and the *Price Control Act 1996*. The *Pure Food Act 1996* and the *Environmental Health Act 1980* were identified in the trade framework as critical for trade engagement in Solomon Islands, to ensure they are consistent with preferential trade arrangements. Regulations are also being used to protect foreign investment, through ensuring that the rights of foreign investors are protected.

Food system policies also apply a range of strategies with the aim of expanding primary production capacity, encouraging greater efficiency, and maximizing value-adding processing opportunities. For example, direct incentives are being applied in the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030) to boost livestock and apiary industries, with the provision of roosters, boars, mini feed mills, tools and hives. The MAL is supporting the provision and installation of copra dryers and the introduction of technologies and mechanization for tilling, crushing and processing coconut products. The government is also looking to start applying tax excises to export of primary products that negate value-addition.

Indirect incentives are largely being applied to avert factors with potentially undermined production, business development and market participation. Services provided include technical and advisory expertise not commonly available to primary producers and small businesses; for example, on-site soil analysis improvement consultations, animal health laboratories and veterinary services, business development centres and industrial parks, programmes to reduce complexity in export of manufactured products (“seamless trade”), equipment measuring and calibration, and machinery and technology centres offering maintenance, standards certification, biosecurity surveillance and pest eradication. Agriculture policy also includes approaches to strengthen access to markets by building productive relationships that might improve coordination and linkages between producers, processors and traders. These include the establishment and strengthening of farming and livestock associations and cooperatives (particularly for livestock and cocoa operations), and the facilitation of new public–private partnerships across the food chain.

Greater leveraging of public procurement has been proposed as an incentive to maximize production capacity in the productive sector, with the trade frameworks introducing a scale-up distribution linkages with local suppliers (hotels, restaurant, retailers, public procurement, wholesalers) to facilitate market access and improve reliability and safety of supply for export (“backward linkages”).

Also evident are tax exemptions and subsidies offering incentives for participation in the trade and export market. For instance, the Government of Solomon Islands subsidizes the copra, noni and cocoa industries to counter high costs of export freight, and is considering offering goods and services tax relief, duty exemptions and income tax reductions in order to attract direct foreign investment.

The MAL is planning to expand the transport and communication capability of its extension services to enhance opportunities for capacity building and communications, and aims to undertake supply chain mapping for key commodities to improve tracking and capacity in handling, processing and packaging for cold chain. To aid the

passage of food across the food system, relevant policy documents also include the provision of infrastructure, including slaughter facilities, high-quality market storage facilities and shared machinery centres, as well as increased agricultural land allocation. Solomon Islands additionally has dedicated strategies for improving transport, communications, waste and water infrastructure, to reduce the price of electricity, provide reliable access to clean water, roads and transportation, and to provide populations with improved digital infrastructure.

8.4.2 FOOD SYSTEM POLICY APPROACHES TO MANAGE NATURAL RESOURCES AND PROMOTE RESILIENCE

Fisheries and trade policies have a strong priority for promoting sustainable management of coastal and fisheries resources, and preventing resource exploitation. The agricultural sector policy expresses concerns to promote environmental sustainability, and has aims to promote resilience and preparedness.

Authoritative tools such as the *Fisheries Management Act 2015* are being applied to mitigate overfishing and illegal fishing, and to reduce reef endangerment. The Solomon Islands also has in place environmental protection regulations to conserve the environment and prevent degradation through practical means (e.g. waste control, recycling). Environmental impact assessments are mandatory in development proposal phases, including in the food, fishing and marine industries, though trade policies allude to these being poorly implemented or enforced.

Concerns around climate change and resilience are addressed throughout the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan (2021–2030), largely with incentives and policy tools that offer knowledge and skills transfer. For instance, incentives include technological enhancements that promote sustainable farming practices, taxes to discourage import of plastics, and scale up waste and composting infrastructure. Policies include a large number of knowledge and skills transfer approaches, including research and development programmes, technical advice and extension services, training and knowledge resources, largely directed at farmers. There are also plans for research and promotion of climate- and pest-resilient crops and soil improvement strategies, and promotional activities around sustainable and organic farming practices. Fisheries policies include fisheries information and management systems, research on fisheries depletion and invasive species, and community education.

8.4.3 FOOD SYSTEMS POLICY CONCERNS FOR NUTRITIOUS DIETS

The Solomon Islands agriculture sector includes in its mission to enhance food security for all rural and urban areas, and food security is noted as a concern in fisheries policy. However, compared with other policy priorities, nutrition and food security aims are being addressed with far fewer policy instruments. Authoritative tools are being applied relevant to nutrition and food security mostly only in relation to the maintenance of health and safety standards of foods for sale, import and export. The Solomon Islands Trade Policy Framework (2015) reiterates the importance of health and safety regulations to protect health and recommends reducing the price of nutritionally adequate foods. Agriculture policy includes strategies for the conservation, multiplication and distribution via fruit and vegetable seed preservation and seedlings, and planned research to help identify nutrient-dense species as well as traditional practices of production and preservation. Research will also be used

to determine feasible technological enhancements for growing, harvesting and post-harvest food handling and storage of fruits and vegetables; for example, hydroponics and seaweed fertilization. The agriculture strategy recommends the promotion of local foods and healthy, balanced diets through awareness-raising activities, in partnership with health departments.

8.5 LIFTING POLICY COHERENCE FOR HEALTHY AND SUSTAINABLE DIETS

Food system policy reflects a strong focus to improve agricultural productivity and capitalize on economic opportunities, particularly by increasing the contribution of agricultural and fisheries value-added products to trade, and by enhancing local procurement opportunities for local producers. The government recognizes the need for tighter linkages between stakeholders across the food supply chain in order to reliably identify and meet market opportunities and enhance efficiency.

Policies also reflect the desire for Solomon Islands to achieve greater food sovereignty and sufficiency in order to reduce import dependence and promote livelihoods. However, the foods mostly commonly emphasized through the policy documents are fish and marine resources, livestock, honey, copra, cocoa and noni, which are key commodities flagged for value-adding and export.

Concerns about the impact of food production on the environment are also evident in the policy documents, as well as regarding the preparedness to maintain food security in the context of environmental or economic shocks. These are being addressed with some regulatory tools, although the majority of strategies to promote resilience and adaptation emphasise knowledge transfer and rely on the subsequent behaviour change of farmers and fishers.

Achieving food security and promoting nutrition are aims for productive sectors, and initiatives to address these include the provision of inputs to farming, the scale-up of livestock farming for protein, and improvements to local market infrastructure to improve safe and reliable access to fish, livestock and fruits and vegetables for communities. But the food system sectors also rely on health and education to provide farmer and consumer education in order to influence consumption decisions.

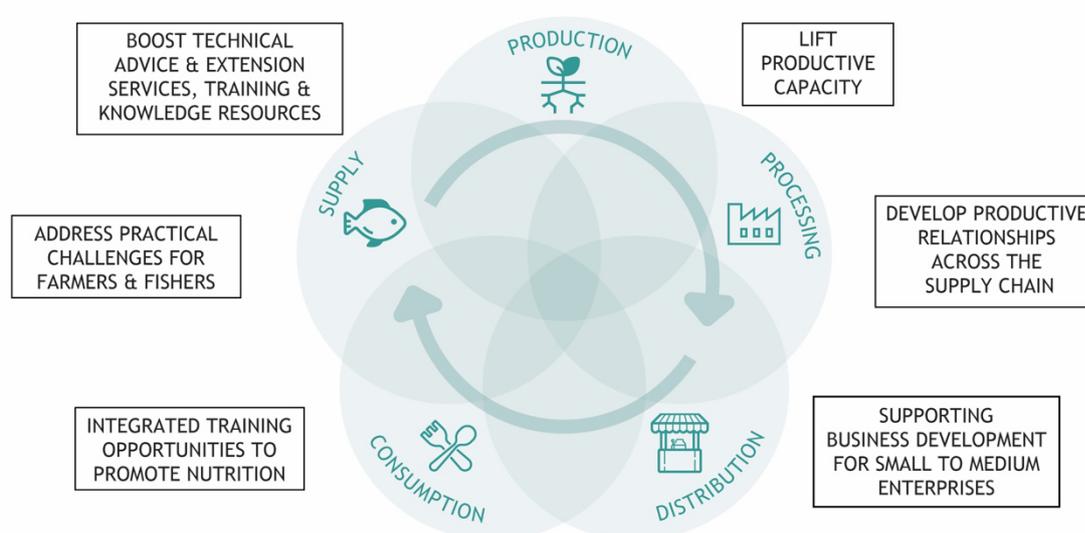
Though there are efforts to promote economic, environmental and nutrition outcomes across food system policies, there are opportunities to highlight the importance of the environment and health, and to signal and prioritize those policies that create benefit across all domains simultaneously (Figure 8.1).

An additional opportunity to strengthen policy coherence is through increased utilization of the provincial level of government. The consultations undertaken found that there are significant strengths in policy implementation across food system sectors, as described above. In particular, the work undertaken by extension officers, fisheries officers, nutrition staff, environmental officers, MCILI field staff and others. However, the consultations also identified that the existing reporting structures maintain silos, with policy relevant to the food system being largely driven by national-level ministries. Our analysis suggests two opportunities at the provincial level.

First, there is an opportunity for provincial governments to take a more active role in terms of coordinating and facilitating coordination and cross-sectoral interactions. The focus of provincial governments on development at the moment seems to limit focusing on food systems. However, the consultations indicated initial cross-sectoral engagement at the provincial level on the food system (in many cases, driven by the agriculture sector); namely, in Western and Guadalcanal provinces. With the recent whole-of-government commitment to the food system, there may be an opportunity for an explicit framing of the food system as central to development to enhance provincial government engagement (following the above analysis, which points to the economic, environmental and nutritional contributions of the food system, in line with the SDGs). This would be aided by there being political and technical staff within provincial government in food system sectors – specifically health, education and fisheries.

Second, there is an opportunity for more feedback between provincial and national levels of government to enable capacity and resourcing for effective and coordinated policy implementation on the food system. Given that provinces to some extent act as a hub for policy implementation across multiple food system sectors, increasing the avenues for provincial governments to provide feedback regarding capacity and resource needs relevant to the food system could generate new insights and opportunities. Our consultations indicated recognition among field staff from fisheries, nutrition, education and agriculture regarding the potential synergies that could enhance the food system. This included internal training opportunities that would enhance the integration of food system priorities into daily activities; for example, training of extension officers by nutritionists in the provinces to enhance their ability to provide advice regarding nutritious crops, or training of nutritionists by extension officers to support them in advising on home gardening. It also included collaborative community development activities, such as collaborations between education and extension officers, together with nutritionists, to work with schools on school gardening opportunities.

Figure 8.1: Opportunities to enhance food system policies in Solomon Islands



Source: Author's own elaboration.

8.6 OVERVIEW OF KEY INSTITUTIONS AND STAKEHOLDERS

In this section, we provide an overview of the roles and priorities of the key policy stakeholders relevant to food system policy in Solomon Islands. This section provides further details on the stakeholders mentioned in sections 8.1–8.5, expanding on their roles and priorities. Government ministries play a critical role across the food system, particularly in the agriculture, fisheries, commerce, finance and trade sectors, as well as cross-cutting sectors such as women and youth, environment and health (tables 8.3–8.5). With respect to international trade, state-owned enterprises such as the Commodity Export Marketing Authority (CEMA) are also important (Table 8.5). Non-governmental organizations agencies, civil society organizations and development partners such as the Australian Government Department of Foreign Affairs and Trade (DFAT) make significant contributions to policy implementation and capacity building (tables 8.3–8.6). Across the elements of the food system, private-sector and private-sector organizations play an essential role, particularly farmers and agribusinesses (tables 8.3–8.5).

Table 8.3: Stakeholders relevant to food production

<p>MINISTRY OF AGRICULTURE AND LIVESTOCK (MAL)</p>	<p>MAL is Government of Solomon Islands leading service provider to the agriculture sector, accountable for formulating, executing and evaluating agriculture policy, with aims to increase agricultural productivity, enhance food and nutrition security and to generate economic opportunities for communities, and explicitly for women, youth, the vulnerable and disadvantaged.</p> <p>MAL has an explicit focus on enhancing food and nutrition security.</p> <p>MAL adopts both a policy leadership and technical function, offering both technical support and regulatory services. MAL delivers services to farmers via the agricultural extension services that strengthen its reach and provide a bridge between research and farming and production practices. MAL offers community-based trainings, promotes new technologies, and increases the participation of women and youth in the sector</p> <p>Focused activities include increasing investment and financial resources, developing new production technologies, supply of livestock breeds and crop varieties, and pest and disease control management options. MAL also offers technical functions that promote environmental aspects of food systems, including the development of technology for improved waste and composting systems, the introduction of technological enhancements for sustainable farming, and on-site soil analysis improvement consultations.</p>
<p>MINISTRY OF FISHERIES AND MARINE RESOURCES (MFMR)</p>	<p>MFMR oversees the management of fisheries and marine resources. This includes promoting facilities and resources that encourage local fishers to catch, preserve and market their fish, and to oversee the management and regulation of marine resources. MFMR has a mission to “to provide effective services to facilitate sustainable management and development of our fisheries and aquatic resources for the benefit of the nation.”</p>

	<p>MFMR engages heavily in the regional fisheries agenda, and is supported by the Forum Fisheries Agency, a regional fisheries agency also based in Honiara.</p> <p>MFMR operates divisions in inshore and offshore fisheries as well as aquaculture development. They support the ongoing collection of aquatic resources for food and income in rural coastal areas, ensuring the country receives maximal economic benefit from commercial activity. The work of MFMR is heavily led by the national, regional and global fisheries regulatory agenda.</p>
MINISTRY FOR WOMEN, YOUTH, CHILDREN AND FAMILY AFFAIRS	<p>This ministry is responsible for the economic and social empowerment of women and youths. Women are responsible for growing and selling a large proportion of food in the country, and women play a leading role in addressing household food security. This ministry is a key partner for addressing barriers for increasing women's participation and ownership of agricultural activities.</p>
PROVINCIAL GOVERNMENTS	<p>Provincial governments are responsible for overseeing the operationalization of national policies at the provincial level. They oversee and provide funding and logistical support to sector-specific staff to lead implementation of provincial activities and initiatives, including from MHMS, MAL, MECDM and MFMR.</p>
FARMERS	<p>Farmers are main private-sector stakeholders in the Solomon Islands; include the 70 percent of the population engaged in food production.</p>
THE FOOD AND AGRICULTURE ORGANIZATION OF THE UN	<p>FAO assists agricultural production in areas such as terracing, crop rotation, agroforestry, soil fertility, fallow systems and climate-change adaptation, and provides additional support to extension officers and farmers.</p>
KASTOM GADEN ASSOCIATION (KGA)	<p>KGA is one of the longest standing NGOs supporting food production. It operates as a network with a technical function, bringing together over 500 private, public and civil society members from across the country to exchange information and knowledge. KGA reaches rural communities via a small number of paid staff, through lead farmers across its membership base, and a partnership with MAL. KGA's contributions include crop diversification, collection, cultivation, recording, sharing and promotion of traditional varieties and strains of fruits and vegetables, postdisaster sharing of cultivars with areas experiencing loss, and demonstration activities showing innovative ways to rejuvenate land during recovery.</p>
MINISTRY OF ENVIRONMENT, CLIMATE CHANGE, DISASTER MANAGEMENT AND METEOROLOGY (MECDM)	<p>MECDM is responsible for setting and overseeing policies related to environmental protection, climate-change adaptation and disaster management, and therefore "safeguarding" sustainable socioeconomic development. Its work aims to ensure that all new and existing developments, including food production and manufacturing, comply with environmental protections and consider current and future climate-change risks. MECDDM also takes a lead role in preparing the population for disaster risks, and then leads the response to disaster events.</p>

Table 8.4: Stakeholders relevant to food distribution and market access

MINISTRY OF AGRICULTURE AND LIVESTOCK (MAL)	<p>MAL has a focus on cooperative development and cluster farming for small-scale farmers to maximize market opportunities. It is working to facilitate collaboration between communities, male and female vendors, middlemen and transporters along the value chain for use of better storage facilities, transport crates, etc.</p> <p>MAL also oversees an extensive research and development programme looking at opportunities for improving productivity and value-adding for domestic and export markets. MAL invests in farm-level primary processing for reducing post-harvest losses – drying, oil and juice extraction and preservation using traditional practices. For example, MAL’s Department of Planning has supported the establishment of copra milling facilities in rural areas to facilitate the production of coconut oil, biofuel, animal feed and other downstream products for export.</p>
MINISTRY OF FISHERIES AND MARINE RESOURCES (MFMR)	<p>MFMR has in its mandate to develop public–private partnerships that improve the conditions and standards of fish harvesting, processing and export.</p>
MINISTRY OF COMMERCE, INDUSTRIES, LABOUR AND IMMIGRATION (MCILI)	<p>MCILI is responsible for mobilizing investment and resources to promote industry development, entrepreneurship and the development of small and medium businesses. They offer support in sourcing equipment and machines (for small- to medium-sized businesses). MCILI has a mandate to support initiatives in processing and valuing-adding foods to promote import substitution. It offers grants for business development and supports companies or small businesses with buying processing equipment. To improve business opportunities, MCILI is working to improve financial literacy of producers and small businesses, with training and coaching to assist with gaining access to credit, and business training and support via business “incubators” and business centres.</p> <p>MCILI is also investing in development of key export crops, particularly cocoa and coconuts, and has developed the Coconut Sector Strategy. MCILI run a grants programme, predominantly to small agribusinesses, and is exploring co-operative and association models for local products, e.g. pineapple, cassava, kava.</p> <p>MCILI’s Marketing and Exports Promotion Division holds a key responsibility for market access through its mandate to provide information to, and coordinate support for, Solomon Islanders involved in income-generating activities and exporting activities.</p>

MINISTRY OF FINANCE AND TREASURY (MOFT)	MOFT is responsible for facilitating the provision of sound advice on monetary, budget and fiscal policy to the Government of Solomon Islands. MOFT has within their mandate to institute fiscal policies that influence the affordability of foods and beverages, and to adjust custom and excise laws that influence food production, value-adding and export. For instance, Government of Solomon Islands subsidizes the copra, noni and cocoa industries for export to counter high costs of freight. Through MOFT, Solomon Islands is considering offering goods and services tax relief, duty exemptions and income tax reductions in order to attract direct foreign investment.
PROVINCIAL GOVERNMENTS	Provincial governments are responsible for overseeing the operationalization of national policies at the provincial level. They oversee and provide funding and logistical support to sector-specific staff to lead implementation of provincial activities and initiatives, including from MHMS, MAL, MECDM and MFMR.
AGRIBUSINESSES	<p>Agribusinesses collect and aggregate food commodities, bulk processing, value-adding, packaging and marketing, and thus play an important role in the food system by bringing foods to markets. Examples include Jedom Organic Foods, which value adds to produce dried fruits, snacks, chips and chutney, and Kokonut Pacific, which provides milling equipment to farmers and processes coconut products for export.</p> <p>The private sector leads industry working groups for the cocoa and coconut sectors, supported by PHAMA and RDP, e.g. the Barakoma Cocoa Farmers' Association</p>
AUSTRALIAN GOVERNMENT DEPARTMENT OF FOREIGN AFFAIRS AND TRADE (DFAT)	DFAT plays a role in improving market access by developing market infrastructure, and supporting programmes for the economic empowerment of youth and for community-based resource management.
COMMODITY EXPORT MARKETING AUTHORITY (CEMA)	The state-owned enterprise has recently provided a regulatory service to enable exporters to meet minimum market standards for their products, and by improving in-country analytical assessment as quality assurance measures for higher value markets. CEMA is engaged with regulating commodities under the regulator function, and its activities include inspection, grading and certification of agricultural products for the purpose of exports.
NON-GOVERNMENTAL ORGANIZATIONS (NGOS)	Local NGOs each play a specific role within the food system. For instance, KGA and Women in Business develop and train farmers in using simple mechanisms for value-adding, such as solar drying of sweet potato, nuts, fish and peanuts. Gizo Market Vendors Association advocates for vendors' economic rights and ability to sell produce at markets.

SMALL BUSINESS ENTERPRISE CENTRE	This centre is a business training provider, offering business coaching, mentoring and support, including business management skills development (e.g. bookkeeping).
PRIVATE SECTOR DEVELOPMENT INITIATIVE	This initiative has worked to support Government of Solomon Islands to expand business opportunities by reforming business laws and modifying legislation to improve lending to small businesses, improving consumer and competition protections, and targeting the economic empowerment of women. These efforts have resulted in a doubling of business registrations since 2010.
PACIFIC HORTICULTURAL AND AGRICULTURAL MARKET ACCESS PROGRAM (PHAMA)	Funded by development partners, PHAMA supports farmers to increase access to domestic and export markets, reduce post-harvest losses, and engage in value-adding. PHAMA works with CEMA and is supporting a new Horticultural Industry Working Group.
RURAL DEVELOPMENT PROGRAM (RDP)	RDP supports the development of rural communities by running rural training centres to improve livelihood skills and increasing extension services to better support rural farmers. It also provides support to SolTuna, Western Province Agriculture Extension, Ngali Nut Association and farmers to improve market access. RDP's role includes providing training, tools, equipment and infrastructure.
SOLOMON ISLANDS CHAMBER OF COMMERCE AND INDUSTRY (SICCI)	A key stakeholder in supporting and promoting the private sector, and its connection to the government. Approximately 60 percent of the SICCI membership is made up of small and medium enterprises. SICCI provides support to agribusinesses, including the coconut oil and fisheries industries.

Table 8.5: Stakeholders relevant to international trade.

MINISTRY OF FOREIGN AFFAIRS AND EXTERNAL TRADE (MFAET)	<p>MFAET oversees the participation in multilateral trade agreements and establishes the policy agenda for trade and investment. MFAET is involved with multilateral trade agreements, although these currently do not have a strong focus on agricultural trade, apart from a small number of commodities, including copra and kava.</p> <p>MFAET assists MCILI with the coordination of trade promotion activities by identifying and encouraging potential foreign investors and supporting negotiation of trade agreements for trade participation. Through its EIF [Enhanced Integrated Framework] National Implementation Unit, MFAET runs the Enhanced Capacity for Agriculture Trade project that addresses trade-related constraints by building businesses' capacity to trade and take advantage of global trade. For instance, a recent project includes support for two large local crop investors requiring provincial storage and packing houses for use by farmers.</p>
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MINISTRY FOR COMMERCE, INDUSTRIES, LABOUR AND IMMIGRATION (MCILI)	MCILI is also involved in the promotion of export opportunities by providing advice and information on the types of value-added products that could be feasible in terms of buyers, and undertakes market research to identify domestic or export markets for commodities on behalf of businesses. MCILI also subsidizes the cost of packaging and conducts trade shows for agricultural products.
MINISTRY OF AGRICULTURE AND LIVESTOCK (MAL)	MAL has an Agricultural Marketing Unit to collect and disseminate market information and to provide quality control standards for farmers and producers. MALs also supports producers to better identify, negotiate and meet market access standards, and establishes export protocols and certification systems.
COMMODITY EXPORT MARKETING AUTHORITY (CEMA)	Statutory authorities such as CEMA play an important role in regulating commodities by offering services including the inspection, grading and certification of agricultural products for the purpose of export.

Table 8.6: Stakeholders relevant to food environments and nutrition

MINISTRY OF HEALTH AND MEDICAL SERVICES (MHMS)	MHMS is the main provider of health services in the country and plays a primary role in ensuring that Solomon Islanders have access to high-quality health care. It acts as legislator, funder and health provider. MHMS plays a leading role in addressing and mitigating some of the underlying determinants of malnutrition by providing access to maternal and child health services and promoting healthy environments. MHMS has traditionally adopted a lead-agency role in food and nutrition policymaking, and has led and chaired food- and nutrition-related committees, including the National Codex Committee, the Flour Fortification Committee, and committees responsible for the previous National Food Safety, Food Security and Nutrition Policy 2010–2015, and the previous and current National NCD Strategy. MHMS's divisions include: Health Promotion Division, Reproductive, Maternal and Child Health Division, NCD Division, and Environmental Health Division.
MINISTRY OF EDUCATION AND HUMAN RESOURCES DEVELOPMENT (MEHRD)	MEHRD oversees equitable access to high-quality education and aims to see that youths and adults have appropriate skills for employment and entrepreneurship. It is responsible for the implementation of school food initiatives, and equipping children and young people with the knowledge and skills needed to lead active, healthy lives, and to promote sustainable development. It also plays a role in promoting entrepreneurship in agribusiness through internship and apprenticeships. The education sector is one of the leading agencies on the NFSFSNP technical working group, and the lead of a healthy school food-policy working-group. MEHRD has been

	<p>very proactive in integrating food and nutrition into the curriculum across a range of year-level subjects. It worked in close cooperation with MHMS and MAL to develop and finalize the new NFSFSNP and to implement school garden programmes that engage children in growing food for consumption on school grounds.</p>
MINISTRY OF INFRASTRUCTURE	<p>This ministry is responsible for facilitating domestic food transport and market infrastructure. It oversees food produce going to market by enabling more reliable and sustainable infrastructure and transport services, including upscaling transport services for the rural population to access local and international markets and health facilities.</p>
MINISTRY OF COMMERCE, INDUSTRIES, LABOUR AND IMMIGRATION (MCILI)	<p>MCILI is responsible for the <i>Price Control Act 1996</i>, which regulates and prevents price fluctuations of certain food groups for food security and equity purposes.</p>
KASTOM GADEN ASSOCIATION (KGA)	<p>KGA supports rural communities and farmers through contributions including crop diversification, collection, cultivation, sharing and promotion of traditional varieties and strains of fruits and vegetables. KGA is an important stakeholder in promoting the production and consumption of healthy, traditional foods.</p>
LOKOL KAIKAI KOMITI	<p>Lokol Kaikai Komiti will oversee the Lokol Kaikai Initiative, which aims to improve access to, and affordability of, local foods, primarily through programmes that promote local agriculture and fisheries production, post-harvest handling and storage, marketing, processing and retail. Lokol Kaikai Komiti relies on coordination across a range of government stakeholders and sectors, including MAL, MEHRD, MCILI, MOFT and MFMR, as well as civil society groups such as KGA.</p>
FOOD FORTIFICATION NATIONAL COMMITTEE (FFNC)	<p>FFNC in 2015 moved to amend the legislation to mandate the fortification of rice with iron, folic acid, zinc, thiamine and niacin. FFNC provides technical support to MHMS for the implementation and monitoring of mandatory wheat flour and rice fortification.</p>
PROVINCIAL GOVERNMENTS	<p>Provincial governments are responsible for overseeing the operationalization of national policies at the provincial level. They oversee and provide funding and logistical support to sector-specific staff to lead implementation of provincial activities and initiatives, including from MHMS, MAL, MECDM and MFMR.</p>



SECTION 9

GOVERNANCE AND CAPACITY FOR PROMOTING HEALTHY AND SUSTAINABLE DIETS

This section analyses key elements of governance and capacity for food systems, and particularly for promoting healthy and sustainable diets through food systems. The consultations highlighted the importance of United Nations Food Systems Summit activities in raising the profile of food systems within the Government of Solomon Islands. Multisectoral leadership in agriculture in particular is strong, suggesting an opportunity to further develop a “food systems lens” to increase policy coherence through multisectoral governance. There is discussion around the need for a National Food Council to support this, especially the integration of policy objectives related to nutrition and environment. Two ongoing governance challenges identified were: 1) the need for government to engage and cooperate more with

private sector, particularly to build capacity among farmers and small and medium enterprises; and 2) institutional capacity within government to coordinate food system policy and implement nutrition and food environment policy. Key dimensions of capacity included: performance capacity (i.e. tools, money, vehicles) in the agriculture sector; personal capacity (role-related skills, confidence, motivation), particularly for provincial government officials; staff and infrastructure capacity (workload, supervision, support, direction), particularly in relation to implementation of food and nutrition actions in all ministries; and structural capacity (governance, planning, authority, information, purchasing power, communication) – namely, an opportunity for a central governance structure for the food system.

9.1 STRENGTHENING CROSS-SECTORAL ENGAGEMENT

The analysis in Section 8 highlights the multisectoral nature of food system policy, and the importance of the food system for achieving multiple policy objectives – in particular, objectives related to economic opportunity, health and environmental sustainability. In order to strengthen the policy environment and improve outcomes, our analysis suggests that enhancing cross-sectoral engagement will be critical.

According to the consultations undertaken in this project, a key limitation for previous multisectoral food strategies has been the lack of political interest, accountability and oversight to ensure implementation (both across sectors and within organizations). While senior members of health and environment sectors have placed

strong emphasis on the importance of food and nutrition, these have been in direct competition with other key priorities (including managing the COVID-19 outbreak in 2020 to 2022). Nutrition and food security issues still lack clear engagement from political leaders, leading to limited high-level leadership.

A key challenge for food policymaking in the Pacific is incoherence of priorities related to food and nutrition between government sectors. For example, within the agriculture sector, policy related to nutrition is focused on improving productivity, supply and affordability of locally produced foods. In comparison, the health sector offers a range of strategies that promote healthy eating via the guide to healthy eating, and clinic-based information giving by health workers.

In this section, we outline three core elements of strengthening cross-sectoral engagement: first, leadership at the political and ministry level, to support and enable integration of multiple objectives relevant to the food system into the key policy sectors, as well as improve policy coherence; second, institutional structures related to multisectoral governance of food policies; and third, engagement with the private sector. All of these are critical contributors to coherence and coordination, including for implementation.

9.1.1 LEADERSHIP

The National Development Strategy creates a framework for accountability for both political leaders and for leaders within the multiple ministries with responsibility related to the food system and nutrition. The Solomon Islands recently participated in the global United Nations Food Systems Summit (UNFSS), and sent representatives to the Pacific Islands Blue Pacific Food Systems dialogue in 2021. Solomon Islands recently hosted its own food systems dialogue hosted by the Permanent Secretary of Agriculture. The support of political administrators has been found to be a critical factor in the implementation of food and nutrition policy. Aspects of this include the degree to which high-level cross-sectoral actors from government (e.g. head of state), parliamentarians (e.g. Cabinet) and senior bureaucrats (e.g. ministry executives or directors) champion and initiate nutrition policy initiatives. At the ministry level, the Permanent Secretary of Agriculture and the Under Secretary for Health Improvement are participants in a regional food systems reference group, and have both demonstrated high levels of commitment to healthy and sustainable diet policies. However, according to consultations, there has been little engagement from political and sectoral leaders on issues around nutrition for several years (Baker, 2018).

9.1.2 MULTISECTORAL GOVERNANCE OF FOOD POLICIES

The Government of Solomon Islands has established an Agricultural Advisory Council to oversee progress in implementing the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030. Membership includes relevant ministry representatives, SICCI, the private sector, banking institutions, NGOs, and the Ministry for Women, Youth, Children and Family Affairs. According to the strategy and investment plan, MAL will encourage the formation of Industry Working Groups which will focus on specific subsectors or commodity value to ensure concerns respective value chains are raised and communicated to the respective authorities.

The draft NFSFSNP had objectives to “increase private sector investment in nutrition-sensitive agricultural value chains, to facilitate the adoption of improved production, marketing, processing and retailing technologies and methods” and “Local farming and fishing communities improve the sustainability of local food supply sources through the adoption of sustainable agriculture and fisheries management methods”. The NFSFSNP was being overseen by MEHRD, MAL, MHMS, WHO, FAO and KGA, with a rotating chairing duty. However, according to stakeholders, the plan has not been accepted into Cabinet and cross-sectoral governance as it is not being operationalized. The governance group overseeing the 2010 and (draft) 2019 NFSFSNP were either never fully operational or discontinued early in its implementation.

There is discussion around the need for a National Food Council to oversee the implementation of policies that can see the simultaneous promotion of the multiple objectives related to food under a shared set of principles. MAL has committed in the Investment Plan to establishing a multistakeholder and cross-sectoral “food council” at both national and provincial levels. A council would oversee that food supply chains for each provincial capital were identified and mapped and develop a strategy for shortening food supply chains for key commodities. The council was also identified to explore cross-sectoral issues including organic food waste collection. Health stakeholders would be supportive of integrating nutrition concerns into a cross-sectoral committee such as this to reduce emphasis on nutrition and food security being “health’s responsibility”.

Whichever governance group is determined to oversee the food system, stakeholders had previously suggested that a dual-governance arrangement would be useful for implementing multisectoral food policies; one that engages policy leaders from across different ministries in accountability measures but encourages operational staff to communicate regularly (formally and informally). The (more recent) Food Fortification National Committee (FFNC) was given as an example of effective governance. The committee was chaired by the Under Secretary for Health Improvement at the MHMS and included both public- and private-sector stakeholders. It was underpinned by a clear plan of action to operationalize and monitor the policies, and parties were repeatedly made aware of their responsibilities and delivery time-frames. Additionally, staff were encouraged to engage in informal communications to maintain momentum.

9.1.3 COOPERATION BETWEEN THE PUBLIC AND PRIVATE SECTOR

Food systems policies reflect the priority of government to engage and cooperate more with the private sector. The RDP, supported by development partners including the World Bank, the European Union and the Australian Government, is one of the key mechanisms for strengthening connections between farmers and markets across the value chain. The RDP works to assist farming households to engage in productive partnerships with commercial enterprises, with aims to reach 70 percent of the rural population. The RDP also aims to build the administrative and technical capacity of MAL to fulfill its functions.

The export market sector is recognized as a crucial opportunity for growing the rural sector. The newly revitalized state-owned enterprise CEMA will be the main conduit for connecting farmers to the economy and to markets. CEMA offers support with commodities regulation by offering services including inspection, grading

and certification for export. The Pacific Horticultural and Agricultural Market Access Program (PHAMA) was established to support CEMA in managing issues associated with maintaining and improving trade. These groups have been developed to enable dialogue between the private and public sectors in export markets and market access.

Given the role of agribusiness in purchasing rurally grown commodities and bringing them to market, the government provides them with grants and materials. On a smaller scale, MAL partners with farmers associations and NGOs such as KGA. KGA has a number of critical relationships with community organizations, including Baetolau Farmers Association, Guanafu Farmer School, Sausama Farmer School Women's Network and Rototanikeni Women's Association. Overall, the consultations indicated that there was growing private sector activity related to food, but that it is not joined up, from a food system perspective.

Consultations at the provincial level indicated limited collaboration between government and the private sector in achieving food system policy priorities. Cooperation and engagement appeared to be quite limited to supporting and promoting export-oriented agriculture and fisheries, which are provided substantial support for meeting export requirements. There is some extension support for traditional crops, including those destined for the domestic market, but the technical support could be improved in relation to value-adding, and access to credit increased. There also appears to be an opportunity to increase engagement and support for retailers and markets – these constitute SMEs and as such there is potential for support through MCILI. However, in relation to food, there is an opportunity between sectors to develop the multiple requirements of effective value chains; effectively, bringing together technical support from multiple sectors collaboratively to support these private-sector actors.

One example of successful policy engagement to support the private sector that was identified through the consultations were two instances of tax reform, which were undertaken in consultation with the private sector and perceived as achieving multiple government objectives. First, the introduction of a value added tax in 2021 was identified as a way to both simplify the tax structure and enable local foods to be exported, as well as to raise revenue. Second the introduction of a sugar-sweetened beverage tax was identified as having minimal impacts on producers of (healthy) local foods, while creating societal benefits through improved nutrition and raising revenue. In addition, a newly formed unit tasked with addressing impacts of climate change on food security that has been created within the Ministry of Finance may suggest a strategy for integrating food system issues into budgeting, moving forward.

9.2 CAPACITY TO IMPLEMENT FOOD SYSTEM AND NUTRITION POLICIES

In this section, we describe the core elements of capacities for food systems relevant to coordination and implementation. We consider capacity in terms of Potter and Brough's (2004) framework of systemic capacity building: a hierarchy of needs, which holds that capacity is not simply having a sufficient number of staff with

technical knowledge. The framework instead identifies nine interrelated components of capacity across a hierarchy of four categories: structures, systems and roles, staff and facilities, and skills and tools. We considered these aspects of capacity for policy implementation at national, provincial and community levels, both within government but also in the private sector (Table 9.1).

9.2.1 CAPACITY OF GOVERNMENT TO IMPLEMENT FOOD SYSTEMS POLICIES

According to the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030, the agricultural sector currently lacks comprehensive policy frameworks to facilitate production and trade, and facilitate coordination between producers and private and public partners across the value chain. It also reported significant human resources challenges, and a lack of organizational culture of team-work, transparency, accountability and efficiency. To address this, the plan aims to significantly improve its service orientation and efficiency, to offer reliable and high-quality technical and scientific services to improve agricultural production, and to create stronger linkages and working relationships across the agriculture industry. The plan's capacity priorities include: developing a clearer structure for monitoring and evaluation; better facilitating collaboration with regional and international stakeholders; and building technical and scientific services that support farmers to modernize and develop commercial opportunities.

MAL's main service delivery mechanism to the provinces is through extension officers, who work in all provinces to provide technical support and assist with knowledge-building activities at the farm level. Provincial priorities in Auki, for example, include distributing farming inputs to farmers, supporting food vendors with food safety and improving local market efficiency, and supporting emerging industry initiatives (e.g. pineapple juice). Many extension officers also support farmers in accessing grant funding. Funding for provincial implementation of national policy guidance is expected to occur via provincial annual operational plans; however, provincial workers report facing challenges in accessing managerial direction and financial support to undertake their duties. However, many provincial workers work closely with NGOs which apparently have more reliable access to funding. Agriculture policy design is based on widespread consultation, though provincial consultation processes could reportedly better engage in provincial governance structures, and pass-through of national policy guidance is not well coordinated or communicated.

Consultation with MAL extension officers and fisheries officers has suggested that many provincial officers recognize the importance of a healthy and sustainable food supply, but their understanding is limited to “on the farm” or community-level strategies, and they have not been involved in any broader food systems discussions, planning or governance. It also suggested that extension officers view health actors as having a leading role in promoting healthy and sustainable diets. Extension workers also face challenges associated with accessing support and training on food systems, and in accessing funding from the provincial government.

Similar challenges have been reported across the fisheries sector, with policymakers reporting challenges in relaying information to communities on their responsibility to develop effective management plans for customary marine areas. Fisheries has historically operated in isolation from the rest of the food system, though both MAL and MFMR operate to provide support to farmers and fishers from the communities.

Key ministries responsible for overseeing industry and trade development (MCILI and MFAET) report challenges that reduce their capacity to support enterprises and promote reliable and effective trading partnerships. For MCILI, these have included a high vacancy rate (over 15 percent), and an imbalance in the number of managers compared with officers required to implement the tasks. This has been attributable to the ongoing underachievement of that sector in meeting sectoral objectives to promote investment and trade development. The trade sector has reported an unclear division in labour across the manufacturing sector and a lack of officials with adequate technical, monitoring and administrative knowledge and responsibility. Across the entire food system, policy documents report weak administrative and technical capacity at the local level, a tendency of various ministries to work in isolation from each other, a lack of leadership and middle-management, and delays in financial and human resources administrative systems.

NGOs play a major role in supporting development projects at the provincial level. These projects often intersect with food systems but do not yet appear to be engaging with a holistic food systems lens. There may be an opportunity for dialogue with NGO partners to increase understanding of food system priorities at the national and provincial levels, and improve integration of community-level projects across the food system.

9.2.2 CAPACITY OF GOVERNMENT TO IMPLEMENT FOOD ENVIRONMENT AND NUTRITION POLICY

The frameworks that currently oversee food environment policy in Solomon Islands include the Multi-sectoral National NCD Strategic Plan 2019–2023, the Lokol Kaikai Initiative 2019–2023, the National Rice Sector Policy 2019–2023, the National Health Promotion Policy 2021 and the draft National Food Safety Food Security and Nutrition Policy 2019–2023. Together, these present a fairly comprehensive set of strategies to promote healthy food environments and influence consumer behaviour. Recognizing the challenges associated with engaging non-health sectors in actions to improve food environments, the NCD Strategic Plan proposed as a priority to “adopt a more coherent ‘whole of government’ approach to NCDs and other health issues when engaging with the Pacific (e.g. trade policy aligns with aid and other policies).” Implementation of food environment and nutrition policies involves sectors outside of health that are responsible for shaping the production, packaging, marketing and retailing of food, including MAL (production, processing), MCILI (processing, contents, packaging, marketing), MHMS (safety, packaging), and MFAET (pricing, marketing).

In 2019, MHMS hosted, together with SPC and WHO, an high-level meeting to engage political leadership from across government. However, the COVID-19 pandemic began shortly after this forum, dashing hopes that this would lead to an acceleration of nutrition policy implementation. Food environment policy implementation efforts have also been halted due to the closures associated with the pandemic, and revision of focus on managing the vaccinations and outbreaks. The NFSFSNP was never accepted into Cabinet and has remained unimplemented. Consultations indicated that the governance group overseeing the 2010 NFSFSNP was never fully operational and discontinued early in its implementation. Senior leadership at MHMS has expressed the need to elevate nutrition into a cross-sectoral ministry arrangement, to overcome ongoing interpretation that nutrition is “health’s responsibility.”

The consultations identified that there were not enough implementing staff at the national and subnational level to deliver community prevention and health promotion services related to nutrition. Across the relevant ministries, limitations around human resources for health, food and agriculture have formed a significant bottleneck to service delivery. More specifically, stakeholders felt that there were not enough implementing actors with general role-related skills, such as project management, staff management and evaluation, and that the knowledge and skills specific to food and nutrition were lacking. The workforce with formal training in food and nutrition has historically been chronically low, with fewer than nine trained nutritionists employed in the public service, five of whom work as clinical dietitians. There have been high rates of attrition by experienced nutritionists to international development organizations or Solomon Islands National University. However, six of these nutritionists continue to support food and nutrition security in the Solomon Islands in their new positions. Lack of human resource capacity has been compounded by challenging recruitment processes in the Solomon Islands public service. Both the agriculture and health sectors have faced challenges in managing recruitment, improving role-related accountability and high rates of absenteeism. Recruitment to different sectors has been reactive rather than proactive. In addition, agricultural workers have not traditionally had training or capacity in nutrition-sensitive agriculture.

At the provincial level, food policies are implemented by health workers, programme officers or agricultural extension officers based within the provinces. The participation of stakeholders from Solomon Islands in regional dialogues associated within the UNFSS has potential to broaden the non-health engagement in nutrition. However, consultations suggest that stakeholders at provincial and national levels are not engaging with a food systems lens for promoting healthy diets, and that the country has work to do in introducing concepts of healthy and sustainable diets, including among health and agriculture professionals. As described in Section 8.5, there is a significant opportunity for provincial governments to play a lead role in enhancing opportunities for collaborative implementation of food system priorities.

9.2.3 CAPACITY FOR PRIVATE-SECTOR DEVELOPMENT TO THRIVE IN THE FOOD CHAIN

Farmers are the main private-sector stakeholders in Solomon Islands. Farmers, fishers and smallholders account for the majority of small businesses, many of which are unregistered. Farmers in Solomon Islands are widely dispersed with limited ICT access. This limits their access to information on upcoming market opportunities and to science-based advisory services. According to the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030, there is limited farmer knowledge of improved methods, mechanized or animal-assisted agriculture, animal breeding and animal feed formulation. Farmers also face challenges with accessing finance and credit, but they are provided a range of goods and inputs, including: materials and tools from MAL; seeds and seedlings from KGA, Varivao Holdings and previously CEMA; and tools and growers programmes from Island Own.

Farmers and fishers additionally face high costs associated with accessing inputs for primary production or fishing, and limited access to finance and credit linked to a lack of confidence by financial institutions to back

fisheries and agriculture. Remoteness from markets and dispersed farming populations limit effective trading partnerships, with the situation exacerbated by deteriorating transport infrastructure and high user-related expenses (e.g. boat transport, wharfage, storage). Government human and financial resources to address these issues are limited, especially from an administrative sense. Farmers receive financial support from RDP through subsidies and the development of agribusiness partnerships, the Adventist Development and Relief Agency through the purchase of cocoa beans and from MCILI through grant programmes to develop agribusinesses. The Fisheries Division and SolTuna are interested in commercial aquaculture production, primarily tuna.

Much capacity support is orientated to helping farmers to meet export requirements. PHAMA is a major player in supporting this, working closely with commodity associations and industry working groups, to build capacities. The export-oriented capacity building tends to be quite commodity specific, although this includes support for export of traditional foods, including ngali nuts and cassava, rather than food system oriented. A strength of the approach taken, as indicated by the consultations, was the creation of market access working groups, which discuss the private-sector issues with the relevant sectors of government. This has effectively created formal spaces for dialogue between the private sector and relevant government stakeholders – such as agriculture, trade and commerce sectors – and could be an approach that could be utilized for a wider food system capacity-building effort, which includes domestic market development.

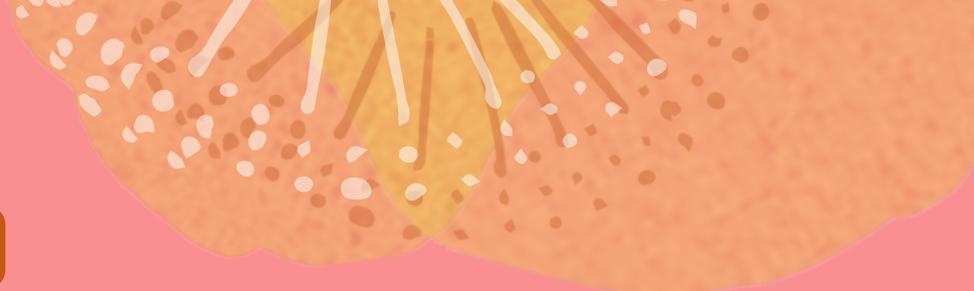
The current government priority for development and ongoing support of SMEs offers a significant opportunity for strengthening healthy and sustainable diets, and for boosting economic development (UNEP, 2021; van Berkum, 2021). The SICCI is a key stakeholder in supporting and promoting the private sector, and its connection to the government. However, private-sector development in Solomon Islands continues to face significant challenges related to ongoing political instability, and difficulties accessing finance and support with business development. Businesses operating in Solomon Islands face high costs for business inputs, lack of ICT and mechanisation tools, and basic and inconsistent infrastructure. Smallholders and SMEs involved in food production have found it difficult to access finance, grants and other incentives, to learn about market opportunities, and to identify and maintain reliable market access for their products (Reeve *et al.*, 2022). Those without access to customary land, often women and youths, may have limited opportunity to develop food production.

Table 9.1: Summary of capacity requirements for food systems policy in the Solomon Islands.

Type of capacity	Capacities required for implementation
Performance capacity (i.e. tools, money, vehicles)	<ul style="list-style-type: none"> • Improving access to credit and business development for farmers and SMEs • Lifting extension worker capacity to access and account for provincial funding to carry out works • Addressing land tenure challenges, particularly for women

Personal capacity (role-related skills, confidence, motivation)	<ul style="list-style-type: none"> • Improving knowledge and understanding of healthy and sustainable diets conceptually and technically at national and subnational level • Providing provincial staff, including extension officers, with greater support and oversight • Role related skills including time management and workload planning • Skills in strategic communications and negotiations across ministries
<hr/>	
Staff and infrastructure (workload, supervision, support, direction)	<ul style="list-style-type: none"> • Providing clarity around responsibilities for healthy and sustainable diets, beyond the health sector • Addressing gaps in human resources across all food systems sectors • Improving supervision over the implementation of food and nutrition actions in all ministries
<hr/>	
Structural (governance, planning, authority, information, purchasing power, communication)	<ul style="list-style-type: none"> • Adopting a cross sectoral committee or council to oversee all food related issues at the national and subnational level • Linking for stakeholders the sustainable development agenda and food systems policy • Identifying political leaders and champions for healthy and sustainable diets, and in reintroducing nutrition to the policy agenda. • Identifying clear policy priorities for working across sectors towards healthy and sustainable diets • Instituting governance structures that engage on food systems issues cross sectorally and laterally

Source: Authors analysis of key capacity needs (categories based on Potter and Brough. 2004. Systemic capacity building: a hierarchy of needs. Health Policy and Planning. 336-345, doi:10.1093/heapol/czh038).



SECTION 10

LESSEN THE DEPENDENCE ON FOOD IMPORTS

Section 10 provides an overview of food import dependence in Solomon Islands, and opportunities to strengthen policy to lessen dependence on food imports. Food imports have increased significantly since 2001, with urban populations the major consumers, and the Solomon Islands Government has repeatedly recognized food import dependence as a challenge to food security and economic growth. Import substitution has been a long-term policy priority, including policy measures within the agriculture, trade, commerce and health sectors. There

is an opportunity for further policy investment to both lessen dependence on food imports and support healthy diets based on traditional, locally produced foods. Drawing on a food systems approach, our analysis has identified three potential avenues to enhance existing policy efforts in Solomon Islands to reduce food import dependence: new measures to incentivize urban households to grow food crops, improving transport and storage of domestically produced food to increase sellers' access to markets, and stimulating demand for local foods.

Food imports have increased significantly since 2001. The primary consumers of imported foods are urban households, with much lower consumption by rural households. Import substitution has been a long-term policy priority for the Government of Solomon Islands. Current policy supporting food import substitution includes agricultural production measures, including for home gardening, investment in domestic infrastructure and markets, linkages to enhance access to domestically produced foods, measures to encourage food processing by Small and Medium Enterprises (SMEs) and efforts to strengthen consumer demand through public awareness.

10.1 UNDERSTANDING THE NATURE OF FOOD IMPORT DEPENDENCE

10.1.1 FOOD IMPORTS

In Part A, we presented temporal trends in food imports across key staples focusing on rice, wheat and wheat-based products, as well as a range of impactful imports such as sugar and sugary products, instant noodles and pre-prepared meals. This analysis indicated that food imports into Solomon Islands have increased overall since 2001, with per capita imports more than doubling, and a threefold increase in the volume (tonnage)

of imports (Figure 5.3). Rice and wheat imports increased from around 35,000 t in 2001 (200 g/capita/day) to 70,000 t (300 grams/capita/day). Chicken imports have increased from around 1 to 30 g/capita/day (the government's desired import volume equates to approximately 8 grams/capita/day); beef from around 0.5 to 2.5 grams/capita/day (the government's desired import volume equates to approximately 1.3 grams/capita/day); and pork from around 0.1 to 1 gram/capita/day (the government's desired import volume equates to approximately 0.4 grams/capita/day)

The volume of healthy food imports has quadrupled since 2001, with a threefold increase in imported g/capita/day. However, there has been a fivefold increase in the volume of unhealthy food imports since 2001, with a quadrupling in imported grams/capita/day. Fatty meat imports increased from around 500 t in 2001 (around 2 g/capita/day) to around 2000 t in 2018 (around 10 grams/capita/day). Sugar-sweetened beverage imports increased from around 500 t in 2001 (around 2 grams/capita/day) to around 5000 t in 2018 (around 25 grams/capita/day). Savoury snacks increased from 5 to 20 grams/capita/day. Sweet snacks increased from 2 to 12 grams/capita/day. Sugar imports increased from around 10 to 35 grams/capita/day.

10.1.2 DEMAND FOR IMPORTED FOODS

Food acquisition data from the 2012-13 HIES indicated consistently higher purchases of imported food products by urban households, compared to rural (Table 10.1). In particular, urban households purchased nearly twice as much rice, flour, instant noodles and biscuits as rural households, although only 50 percent more sugar. Urban households purchased around ten times as much chicken and sugar-sweetened beverages. Notably, the substantial increase in sugar-sweetened beverage imports through to 2018 (to around 25 g/capita/day) suggests that consumption is likely to have increased from the 2012-13 volume (the other commodities do not map so clearly from the trade to HIES categories, thus limiting direct comparisons). Analysis during COVID-19 pandemic suggest that food imports have continued; the government has supported this through taking measures to facilitate import licences on food and agricultural inputs (FAO, 2020a).

Table 10.1: Acquisition of (likely) imported foods

	Average quantity as purchased (g/capita/day)	Urban	Rural
Rice	Rice, white, uncooked	229.37	131.77
	Rice, not further specified	6.27	1.02
Wheat	Flour, not further specified	22.84	11.67
	Flour, wheat, white, plain	0.01	0.04
Chicken	Chicken, quarters	14.79	2.47
	Chicken, whole	1.11	0.23
	Chicken, nor further specified	1.13	0.03
	Chicken, purchased live	0.02	0.17

	Chicken, thighs	0.08	0
	Chicken, breast	0.02	0
Fatty meats	Devon/fritz, processed luncheon, beef and pork	1.48	0.07
	Beef, canned, corned	1.24	0.27
	Pork, canned	0.57	0.64
Sugar/ sweetened beverages	Soft drink, not further specified	4.09	0.7
	Jelly based drinks, e.g. aloe vera	1.29	0.28
	Beverage, chocolate flavour, from base (Milo)	0.56	0.12
	Cordial, not further specified	0.38	0.05
	Cola flavour, soft drink, e.g. Coca Cola/Pepsi	0.36	0.06
	Juice, mango	0.3	0.01
	Lemonade, soft drink, e.g. Sprite, 7 Up	0.13	0.02
	Juice, lemon	0.13	0
	Powdered drink/flavouring, e.g. Kool-Aid/Tang	0.02	0.02
Savoury snacks	Noodles, instant (Maggi-type), dry	13.2	8.63
	Savoury snacks, chips, e.g. Twisties, Pringles, Cheezeballs	0.15	0.04
	Chips, not further specified	0.05	0.02
	Chips, potato (crisps)	0.02	0
Packaged sweet snacks	Biscuits, not further specified	8.25	3.4
	Cake, plain, commercial	1.09	1
	Ice blocks, flavoured ice, popsicles	1.58	0.21
	Ice cream, fruit flavoured	1.46	0.11
	Ice cream, vanilla	0.36	0.07
	Sweets, jelly lollies	0.07	0.07
	Biscuits, sweet, all others	0.05	0.03
	Sweets, boiled, hard	0.03	0.01
	Chocolate candies, e.g. M&Ms	0.02	0.01
	Biscuits, chocolate	0.01	0
	Cake, chocolate, commercial	0.01	0
	Chocolate, not further specified	0.01	0
	Nutella, or other chocolate spread	0.01	0
Sugar	Sugar, white	16.68	11.35
	Sugar, not further specified	2.98	1.66
	Sugar, brown	0.02	0

Source: GoSI & World Bank. 2015. *Solomon Islands poverty profile based on the 2012/13 Household Income and Expenditure Survey*. Honiara, Solomon Islands National Statistics Office, GoSI, & The World Bank Group. <https://documents1.worldbank.org/curated/en/922811528186449003/pdf/Solomon-Islands-poverty-profile-based-on-the-2012-13-household-income-and-expenditure-survey.pdf>

10.2 POLICY RELEVANT TO LESSENING DEPENDENCE ON FOOD IMPORTS

The Government of Solomon Islands has recognized food import dependence as a challenge to food security, as well as an opportunity for economic growth through import substitution. This section describes the range of policies priorities and actions relevant to lessening dependence on food imports. Key strategies include: increasing availability of local foods through subsistence as well as commercial production; building linkages to increase demand and supply of domestically produced foods; supporting the growth of food-related SMEs and MSMEs to increase value adding; investments in domestic infrastructure and markets; and public awareness campaigns to increase consumer demand.

10.2.1 PRODUCTION

The Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030 has articulated import substitution as a priority (“Commercial Agriculture: Facilitate and support the development of commercial agriculture for increased exports, *import substitution*, and enhanced national food security”) and articulated specific targets for import substitution, as noted in Section 11.

One policy measure to support import substitution is encouraging short food supply chains:

MAL will map food supply chains in each provincial capital and develop a strategy and action plan to optimize short food supply chains for various commodities. The performance of local supply chains will be enhanced through SIG’s [Government of Solomon Islands] development of more convenient and safe market places. Honiara Central Vendors Association and other food suppliers will be linked to farmer organizations. (GoSI, 2021).

Import substitution measures also target the main imported commodities, with specific policy activities to promote domestic meat production and rice production for import substitution.

The Agriculture sector is also seeking to balance export crop promotion activities with import substitution measures. For example, the current Strategy notes explicitly that:

A cautious approach will be taken to ensure that the available fertile areas for domestic food production and home gardens will not be indiscriminately converted to cash cropping. Such an approach would run contrary to increased self-sufficiency, increased resilience, and a more nutritious food base. (GoSI, 2021).

Promotion of subsistence agricultural production is also a government priority, which is supported by the Solomon Islands draft National Food Security, Food Safety and Nutrition Policy 2019–2023 as well as the Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030. Although an explicit link to import substitution is not made, policy measures to facilitate improved access to “sup sup” gardens

(organic backyard garden programmes) and improved capacity of school gardens in the food and nutrition sector, and support sup-sup gardens as part of support for productive capacities of the household, can all contribute to import substitution.

10.2.2 DOMESTIC DISTRIBUTION, FOOD PROCESSING AND MANUFACTURING

The Ministry of Commerce, Industries, Labour and Immigration (MCILI) has a clear priority and mandate for food import substitution. Under the **Solomon Islands Micro, Small, and Medium Enterprises Policy & Strategy**, the priority for import substitution in the food sector is clearly articulated, with a focus on employment creation. Fruits and vegetables are also highlighted as specific foods with potential for investment to contribute to import substitution. MCILI aims to create employment opportunities through the linking of the public, private and community sectors, which includes support for micro, small and medium enterprises (MSMEs), mostly in the form of technical training assistance to existing and potential entrepreneurs in the country, specifically for food processing and manufacturing technical skills.⁴ Similarly, the Essential Services Division supports manufacturing and downstream processing activities that are focused on import substitution and export oriented. It includes encouraging cottage industries as a means of self-employment and creating more employment opportunities through the manufacturing and processing sector and downstream processing activities that are focused on import substitution and export oriented. It includes encouraging cottage industries as a means of self-employment and creating more employment opportunities through the manufacturing and processing sector.

Existing policy measures to facilitate domestic food transport and marketing implicitly support import substitution through enhancing access to domestically produced foods in urban areas. The **Ministry of Infrastructure Development Corporate Plan** includes policy measures to strengthen physical infrastructure and utilities with an emphasis on markets, and to maintain and improve roads and feeder roads throughout the country.

The **National Trade Policy Framework** also articulates a clear priority for building productive capacity, aimed partly at helping with import substitution in selected industries, including food. A key policy measure is to *build linkages between the mining sector and other industries including utilities; food services; maintenance services; machinery maintenance services; training of technical personnel in business services; accounting and safety standards*. The Framework notes a considerable opportunity for farmers to supply food to hotels, tour agencies and restaurants, as many of the foreign businesses in Solomon Islands import a large majority of their foodstuffs and processed items. To enable this, the Framework includes measures to build skills and capacities for the private sector: *Implement a programme, including overseas study tours and quality standards assurance, on knowledge and capacity-building of high value food processing and marketing techniques for private sector entrepreneurs. Encouraging value addition in the food sector, including coffee, nuts, spices, fruits and kava, is particularly appropriate for support in this context. Other countries in the region, particularly PNG, Vanuatu, and Fiji have accessible expertise in these areas. The government will seek the necessary technical assistance from development and international partners to help carry out all of the prioritised reforms in partnership with ministries.*

4 <https://www.commerce.gov.sb/departments-units/industrial-development/functions-of-the-division/promote-food-manufacturing.html>

The Trade Policy Framework also notes that bound tariff rates are very high (between 90 percent and 150 percent) for some key imported foods – namely meat, processed fish, and prepared foods – which indicates potential for tariffs to be increased in relation to supporting import substitution.

10.2.3 CONSUMER DEMAND

Consumer demand initiatives encouraging increased consumption of local foods can implicitly support the achievement of food import substitution. The **Solomon Islands Agriculture Sector Growth Strategy and Investment Plan 2021–2030** includes specific initiatives to promote “Lokol Kaikai”, including training courses on the cultivation, usage, and nutritional value of traditional food crops and the establishment of model farms and/or sup-sup home gardens, containing traditional food crops (2.2). The policy notes that in addition, the Ministry of Agriculture and Livestock will collaborate with the Ministry of Health and Medical Services (MHMS) to support improved school farms and food and nutrition programmes in schools. This collaboration is supported by inclusion of policy measures in the **Multi-sectoral National Non-Communicable Disease Strategic Plan 2019–2023** to promote and increase access to healthy foods such as fruits and vegetables. In addition, the (draft) Solomon Islands **National Food Security, Food Safety and Nutrition Policy 2019–2023** includes a policy area specific to enhancing community awareness of healthy foods: “Strengthening social marketing and consumer awareness on safe and healthy food choices, including the promotion of household health and nutrition e.g. conduct awareness on food labelling and food claims to help public make healthier food choices, food safety awareness for school children, producers, food handlers”.

10.2.4 AFFORDABILITY

The relative affordability of domestically produced and imported foods is also relevant to import substitution. The **Multi-sectoral National NCD Strategic Plan (2019–2023)** has recommended the use of tax mechanisms to promote healthy eating, particularly taxes on sugar-sweetened beverages and unhealthy foods (high in fat, salt or sugar) (Strategic area 1.5).

Many imported foods are also under price control, which may have the effect of limiting or reducing the prices of imported foods relative to domestically produced foods (i.e. not consistent with import substitution measures). Under the **Price Control Act 1996**, mark ups on many imported foods are limited (Table 8.2).

10.3 POLICY OPPORTUNITIES TO LESSEN DEPENDENCE ON FOOD IMPORTS AND SUPPORT HEALTHY DIETS

Given the significant policy commitment to import substitution that already exists, together with the multiple benefits of locally produced, traditional foods in achieving food system policy goals related to health and environmental sustainability (Mattei, 2022), there is an opportunity for further policy investment to both lessen dependence on food imports and support healthy diets. Traditional, locally produced foods are more climate

resilient, amenable to traditional agricultural practices, and are often more plant-based, rich in nutrients compared to imported processed foods (op. cit.).

There is global consensus that a ‘policy package’ that addresses import dependence at multiple points of the food system is the most effective approach. This includes policy measures to enhance production, accessibility and consumer demand for (healthy) local foods. This type of multi-factorial approach has been operationalized in other Pacific Island Countries (Box 10.1).

As described above, Solomon Islands has in place policy that addresses many aspects of a multi-factorial approach to food system policy. Drawing on a food systems approach, our analysis has identified three potential avenues to enhance existing policy efforts in Solomon Islands to reduce food import dependence: new measures to incentivize urban households to grow food crops, improving transport and storage of domestically produced food to increase sellers’ access to markets, and stimulating demand for local foods. Operationalizing these avenues will require integration with the existing policy measures outlined above, as well as improved multi-sectoral cooperation and coordination.

BOX 10.1 – CASE STUDY OF REDUCING IMPORT DEPENDENCE IN THE COOK ISLANDS

Analyses conducted for the Ministry of Agriculture in the Cook Islands in their 2013 ‘Strategies that Reduce Dependency on Imported Produce’ highlight comprehensive strategies to reduce dependency on imported produce that are likely to be relevant to Solomon Islands.

- Farmers promotion
 - Entice young farmers to re-vitalize declining number of farmers, including using technical support and on-farm visit
 - Special soft loan for farmers involved in agricultural production (including vegetables, fruits and livestock) – farmers can use this loan for purchasing inputs such as seeds, fertilizer, packaging and small machineries
- Local production with the aim to become self-sufficient in sup-tropical fruits, vegetables and meat
 - Crop scheduling
 - Focus on high value vegetable varieties
 - Technical support to vegetable/fruit growers
- Land Use Project
 - Un-used arable land that belongs to landowners residing overseas to be farmed under short-term lease agreements
- Processing and value adding
 - Including banana chips, taro chips, kumara chips and cassava chips
- Engage in partnership with private sector
 - Invest in vegetables and fruit agriculture
- Engage with development partners for technical assistance

10.3.1 INCENTIVIZE URBAN HOUSEHOLDS TO GROW FOOD CROPS

Most rural households engage in subsistence production of staple crops – namely sweet potato – as well as a range of healthy foods (Table 10.2). In contrast, less than a third of households in urban areas produce any given crop. The most common own-produced crops in urban areas are staples, banana, coconut, fish and vegetables – all contributors to food and nutrition security. With disruptions to domestic food supply, many urban households established home gardens and fishing activities (FAO, 2020). The fact that more than a quarter of urban households in 2012-13 were engaging in food gardening, and that in response to the COVID-19 pandemic and associated measures more households increased their food production, suggests the feasibility of further increasing urban subsistence production.

Table 10.2: Percentage of total households engaging in own production

	Urban %	Rural %
Cassava	32.5	n/a
Sweet potato	29.5	86.4
Cabbage	29.3	83.9
Fish	9.8	41.9
Banana	27.5	n/a
Coconut	20.5	n/a
Tomato	10.7	n/a

Notes: n/a – data not available.

Source: GoSI & World Bank. 2015. *Solomon Islands poverty profile based on the 2012/13 Household Income and Expenditure Survey*. Honiara, Solomon Islands National Statistics Office, GoSI, & The World Bank Group. <https://documents1.worldbank.org/curated/en/922811528186449003/pdf/Solomon-Islands-poverty-profile-based-on-the-2012-13-household-income-and-expenditure-survey.pdf>

In addition to existing policy support for subsistence production described throughout this report, recent research from Europe highlights the importance of support for the reputation of local food production (Söukand *et al.*, 2021). Educational and community programmes regarding school and community gardens have proved very important, alongside access to resources. In addition, the **Greater Honiara Urban Development Strategy and Action Plan** notes significant informal settlements, which are likely to have limited access to land for urban gardening. In 2011, about 35 percent of Honiara city's population were reported to reside in informal settlements. In addition, research has indicated that formal access to land creates a barrier to urban gardening, including in public spaces (Foukona and Allen, 2019). This points to a need for greater engagement between urban planning and other sectors such as Lands, Infrastructure, Agriculture and Women, in order to identify and develop household and community-level urban gardening skills, land and facilities for those in low-income communities.

10.3.2 IMPROVE TRANSPORT AND STORAGE OF DOMESTICALLY-PRODUCED FOOD TO INCREASE SELLERS' ACCESS TO MARKETS

The implicit support for import substitution in the **Ministry of Infrastructure Development Corporate Plan** and within urban planning policy could be strengthened to specifically improve transport and storage of domestically produced food. As noted in Part A of this report, a recent vendor survey identified a significant need for cold storage at markets. Programmes such as the Markets for Change programme (UNDP/UN-Women) in Honiara have supported this, but more systemic and coordinated policy support could enhance and extend access to markets.

International research has identified development of local infrastructure such as rural roads and transport facilities as critical, to allow farmers into local markets and support import substitution (Hoering, 2013). These

local markets (for example road side ones) play a fundamental role in terms of facilitating food access to fresh locally produced foods (Underhill, 2019). In Solomon Islands, given the importance of sea-based transport, it will be essential that such initiatives are linked to boat landings, ports and fisheries facilities.

A third measure to increase access to markets is to strengthen participation of farmers' organizations and cooperatives in marketing produce domestically (Hoering, 2013). COVID-19 pandemic related disruptions have had a significant impact on household and village economies, with women (as the majority of sellers) disproportionately affected (Farrell *et al.*, 2021).

10.3.3 STIMULATE DEMAND FOR LOCAL FOODS

The **National Trade Policy Framework** has highlighted an opportunity to support import substitution through increasing demand for domestically produced foods through enhancing linkages. For example, farmers may supply fruits, vegetables and meat to hotels or the mining industry. Operationalising this goal will require multisectoral policy support. As the framework states: *Linkages are often lacking because local firms cannot meet international production standards, as well as corporate requirements in terms of consistency, continuity and volumes of production.* The Framework points to UNCTAD recommendations regarding policy measures that can promote linkages, including private sector training programmes, improving technology, enhancing provision of information and provision of financial assistance. Key stakeholders will be the Ministry of National Development Planning and the Ministry of Commerce, Industries, Labour and Immigration, together with the Ministry for Rural Development, Ministry of Infrastructure Development and Ministry of Trade. There is also an opportunity to rebalance incentives towards locally produced foods by reviewing the Price Control Act (1996) to ensure that the price of healthy local foods is also considered.



SECTION 11

PATHWAYS FOR FOOD SYSTEMS TRANSFORMATIONS AND RECOMMENDATIONS FOR DECISION MAKERS

Solomon Islands strong connection to traditional systems, in combination with development partnerships, creates a unique opportunity to undertake actions that simultaneously provide sustainable, affordable and healthy diets for the whole population, as well as good livelihoods opportunities. Based on the consultations and analyses summarized above, three key pathways for food system change may be recognized: Strengthen and connect rural food systems; Strengthen the national policy environment; and Advocate for food environments that make healthy food more

accessible, affordable and convenient. These pathways are centred on different scales (provincial, national inward looking and national outward-looking) but overlap and interact in important ways. Rural areas must be prioritized alongside urban areas, and strong connections forged between them for national prosperity. The pathways identified recognize areas of strength that are already being supported and that do not need to be ‘transformed’ as much as they need to be strengthened to continue their positive trajectory.

Identification of pathways for food systems transformation is now widely promoted as a vital approach to meeting numerous development challenges, including achieving the 2030 Agenda and the Sustainable Development Goals (Willett *et al.*, 2019, Fanzo *et al.*, 2020, Herrero *et al.*, 2020). Food system policy has the potential to address the need to reduce poverty, eliminate hunger, reduce malnutrition, and improve health by focusing on diet-related disease, biodiversity conservation, ecosystem restoration, climate action and synergies across urban and rural areas (OECD/FAO/UNCDF, 2016). Governments at local, national, and supranational levels have a significant challenge in adopting mandates and approaches that successfully address these interrelated challenges. Given the significant number of government sectors and stakeholders involved, more effective cross sectoral governance institutions will be critical to develop and implement coherent and complementary food systems policies (OECD/FAO/UNCDF, 2016).

Earlier sections of this report have highlighted key patterns and drivers in food system evolution in Solomon Islands. The national food system is influenced by processes and events happening within Solomon Islands and more broadly in the region and globally. Cutting across these scales, food-related processes and trends interact with factors within the national food system and with those arising internationally, such as those associated with global food trade. Further, there are many processes and events in the broader landscape that impact on the production, distribution and consumption of food, such as extreme weather events, and the COVID-19 pandemic.

Solomon Islands strong connection to traditional systems, in combination with development partnerships, creates a unique opportunity to undertake actions that simultaneously provide sustainable, affordable and healthy diets for the whole population, as well as good livelihoods opportunities. Based on the consultations and analyses summarized above, three key pathways for food system change may be recognized. These pathways are centred on different scales (provincial, national inward looking and national outward-looking) but overlap and interact in important ways. Rural areas must be prioritized with urban areas, and strong connections forged between rural and urban areas as these are critical to national prosperity (Keen *et al.*, 2017). The pathways recognize areas of strength that are already being supported and that do not need to be ‘transformed’ as much as they need to be strengthened to continue their positive trajectory.

Below we summarize the three broad pathways and headline recommended actions. These recommendations and the implementation mechanisms within them, are given more context in terms of issues and what is already being done in Table 11.1.

- 1. Strengthen and connect rural food systems:** Food production largely happens at village level in Solomon Islands. Governance over productive spaces is generally held at the local level, for example, more than 90 percent of inshore coastal areas (land and sea) are tribally owned through customary land tenure as recognized in the Solomon Islands National Constitution (Wairiu, 2006; Basel, Goby and Johnson, 2020). Local governance and practices have deep cultural foundations; building connections between these institutions and ways of life, and initiatives and projects originating at provincial and national levels, will be critical to sustained progress. Collaboration among national and provincial governments, in partnership with private sector and civil society, is important to effectively respond to growing food demand and adapt to the changing climate (FAO, 2019). This collaboration is also needed to support integration across sectors to better interface with local informal institutions. Key recommendations are to:

- Investigate and establish opportunities to increase community level production of foods for domestic markets that have multiple benefits for nutrition, environment, and livelihoods.
- Incentivise opportunities for food processing and value adding for national consumption.
- Facilitate pathways that inform and connect producers in rural areas with demand for products in urban areas.
- Promote entrepreneurship among food producers, and those with an interest in food manufacture/value add, with preferential opportunities for women and youths.

2. Strengthen the national policy environment. While there are logical arguments for taking an analytical systems approach to food related challenges that span dimensions of health, culture, environment and livelihoods, implementing ‘food systems’ national policy to affect substantial on-ground change is challenging. Agencies already struggling with resourcing and capacity issues cannot simply be expected to add another level of accountability to their obligations. What is needed is a reframing of the role and centrality of food in the economy and culture of Solomon Islands. Our analysis (Farmery *et al.*, 2020) highlights strengths in existing policy, but also that there have been substantial challenges in moving to a multi-sectoral approach to food systems. Elevation of food policy to a cross-ministerial level, with oversight by a central agency, would be ideal for ensuring the various dimensions of food are equally addressed, creating greater integration across the value chain. Integration of policies and activities with the NGO sector will be important to better interface with local processes. The objectives of all initiatives should be drawn from national, provincial and local ambitions and plans rather than those of external actors. Key recommendations are to:

- Promote and strengthen the National Food Council to progress ‘food system’ approaches e.g. actions from UNFSS dialogue, the (draft) National Food Security, Food Safety and Nutrition Policy 2019–2023 and all other food-related policies to be integrated under the National Food Council.
- Invest in institutional and individual capacity for cross-sectoral engagement, negotiation, management and leadership.

3. Advocate for food environments that make healthy food more accessible, affordable and convenient. Most people in Solomon Islands produce their own healthy foods, however, for healthy foods such as fruits and non-starchy vegetables, there are not enough being produced per capita to meet recommended dietary intakes. In addition, there is an ongoing shift away from consumption of local foods and towards unhealthy imported foods. There are many drivers for this dietary transition, including gaps in local food storage and preservation, as well as convenience and relative price that would make them preferable. While advocating for healthy foods and living is necessary, it is not sufficient on its own to affect change. Understanding and improving local food environments will need to be part of any pathway for moving towards healthier and more sustainable diets. Key recommendations are to:

- Promote ‘food system change’ as a lens for opportunities to improve health, environment and development.
- Promote local production knowledge and the critical role of traditional agriculture and local food system practices to Solomon Islands.
- Promote local Solomon Islands foods to stimulate domestic demand.

Table 11.1: Food system pathways

Recommended actions	Issues addressed	Existing support structures (policies, programmes, people)	Implementation mechanisms – national level	Implementation mechanisms – provincial level	Trade-offs & limitations
Pathway 1 - Strengthen and Connect Rural Food Systems					
<ul style="list-style-type: none"> • Increase community level production of foods that have multiple benefits for nutrition, environment, and livelihoods 	<ul style="list-style-type: none"> • Domestic food production • Poverty and unemployment • Job creation, innovation, value chains for export and domestic markets 	<ul style="list-style-type: none"> • Rural development, rural training centres • Local kaikai programmes • Pacific food revolution • Village institutions (e.g. Churches) • The 93 percent of households who grow food • Kastom Gaden Assoc • MCILI set of relevant policy activities • Supply of and access to inputs for production and processing e.g. like improved seeds, seedlings and livestock breeds • Introduction of resilient, niche and highland crops • Targets for import substitution (rice, chicken, pork, beef, eggs, wheat) • CBRM of fisheries to safeguard sustainable supply 	<ul style="list-style-type: none"> • Supporting women's roles in production • Mobilise rural youth in food production through making food production sector more 'attractive' • Policy to enable village life and rural food distribution activities • Cooperative structures for domestic distribution of foods necessary for population dietary needs • Incentives and inputs to favour sustainable food production that contributes to meeting national population dietary needs • National work plans to support achievable provincial activities 	<ul style="list-style-type: none"> • Agribusiness/ enterprise opportunities for rural women and youths beyond copra, kava, palm e.g. Poultry • Promote village structures that function as cooperatives to support domestic food distribution • Ongoing support for extension officers, including for traditional foods for domestic consumption • Start-up grants, information materials • Education and advocacy for growing and consuming underutilised indigenous foods • Training on hygienic fish-handling and processing • Provincial government to inform national work plans 	<ul style="list-style-type: none"> • Trade-offs between value adding, income generation and food affordability • Cash crop vs subsistence farming • Import substitution doesn't include replacing unhealthy foods with local healthy food
<ul style="list-style-type: none"> • Incentivise food processing & value adding for national consumption 	<ul style="list-style-type: none"> • Inequality in availability of, and access, to local foods • Disconnect between urban consumption and rural food systems 	<ul style="list-style-type: none"> • MCILI initiatives to support food SMEs in processing and innovation 	<ul style="list-style-type: none"> • Review feasibility for value-added or minimally processed foods on scale for urban markets (e.g. Chicken cuts, dried fruits and nuts, root flours) • Improving transport and storage of domestically-produced value-added food at markets, • Create stronger connections across the supply chain between value added foods and the retail market • Gendered approach • Different approaches for rural and urban areas 	<ul style="list-style-type: none"> • Market analysis for feasibility for value-added or minimally processed foods on scale for urban markets • Improve communication across the supply chain for key domestic commodities • Increased investment in entrepreneurship and food product development, preferencing inclusion of women and youth • Identify promising areas and activities for innovation for new products (fish, fruit, vegetables) 	<ul style="list-style-type: none"> • Trade-offs between value adding, income generation and food affordability

Recommended actions	Issues addressed	Existing support structures (policies, programmes, people)	Implementation mechanisms – national level	Implementation mechanisms – provincial level	Trade-offs & limitations
Connecting producers in rural areas with demand for products in urban areas	Wealth creation, urban food demand	<ul style="list-style-type: none"> Job creation, innovation, value chains for export and domestic Backward linkages through public food procurement Both of the above are priorities of MCILII and also Trade Framework 	<ul style="list-style-type: none"> Create business development opportunities for value-added food products Support cooperative development centred on coordinating domestic value adding Adopt policies in public food procurement that preference local food systems Market information systems Improving transport and storage of domestically-produced food to increase sellers' access to markets Enhance government support for private sector e.g. support for financing /access to credit and training Potential to bring together existing private sectors support – which is currently very commodity-specific 	<ul style="list-style-type: none"> Preferencing of agribusiness/enterprise opportunities for rural women and youths in food value adding Ensure loans available at village level 	

PATHWAY 2 – STRENGTHEN THE NATIONAL POLICY ENVIRONMENT

National Food Council to progress 'food system' approach e.g. actions from UNFSS dialogue	<ul style="list-style-type: none"> Interaction between food sectors Capacity for cross-sectoral engagement on food systems issues 	<ul style="list-style-type: none"> Multi-sectoral engagement in UNFSS national dialogue Revision and adoption of the National Food Safety and Nutrition Policy 	<ul style="list-style-type: none"> National Food Council to oversee implementation of UNFSS recommendations & coordination between sectors, including consistency of incentives for sustainability, nutrition and livelihoods Engage leaders and champions in the food system movement (e.g. Jimmy Rodgers) Adopt accountability framework for food systems aligned to UNFSS, SDG's and National Development Strategy Determine funding envelope to achieve these Build political will for creating the structures and expectations of inter-ministerial cooperation on food system action for rural and urban areas 	<ul style="list-style-type: none"> Provincial associations/communities to connect with National Food Council through formal feedback mechanisms, such as provincial visits and annual combined dialogue that brings together national & provincial government actors and community leaders Provincial leaders to decide on local mechanisms for cross-sectoral engagement. Provincial leaders to continue calls for greater attention on food and health 	Ongoing exclusion of provincial partners, or development of mechanisms that do not benefit provinces
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Recommended actions	Issues addressed	Existing support structures (policies, programmes, people)	Implementation mechanisms – national level	Implementation mechanisms – provincial level	Trade-offs & limitations
PATHWAY 2 – STRENGTHEN THE NATIONAL POLICY ENVIRONMENT					
Invest in institutional capacity for cross-sectoral engagement (at different scales)	<ul style="list-style-type: none"> Commitment to implementation Involvement of provincial partners Capacity for cross-sectoral engagement on food systems issues 	<ul style="list-style-type: none"> Existing capacity development activities by MAL and Solomon Islands National University Structure for devolution to provincial level established in some policies e.g. Fisheries Management Policy 	Support strategic capacity development of leadership, provincial directors and middle management to engage and negotiate across sectors	Build capacity of extension workers and provincial leaders on food systems concepts to achieve multiple objectives	Capacity development limited to urban/peri-urban areas
Promote food systems transformation as an opportunity for health, environment & development	<ul style="list-style-type: none"> Involvement of provincial partners in food system dialogue Visibility of informal actors and their roles 	<ul style="list-style-type: none"> Local kaikai programmes Pacific food revolution Kastom Gaden Assoc. Mothers Union The 95 percent of people who grow food 	<ul style="list-style-type: none"> National Food Council to frame food systems as an opportunity for integrated and coherent policies across sectors Ensuring that framing encompasses livelihoods, nutrition and environmental aspects 	<ul style="list-style-type: none"> Communication of food systems concept to villages through radio, entertainment or other means 	<ul style="list-style-type: none"> Food treated primarily as a commodity within policy
PATHWAY 3 – ADVOCATE FOR FOOD ENVIRONMENTS THAT MAKE HEALTHY FOOD MORE ACCESSIBLE, AFFORDABLE AND CONVENIENT					
<ul style="list-style-type: none"> Promote the critical role of local food systems to Solomon Islands Promote local Solomon Islands foods 	Stimulating demand for local foods	Ministry of Health and Medical Services, Ministry Education and Human resources development, efforts towards education	<ul style="list-style-type: none"> Develop information materials, extension services on crops suitable for intensive subsistence farming rather than cash crops Marketing that promotes food sovereignty and that showcases Solomon Islands foods and national identity Promote resilient, niche and highland crops Introduce to national school curriculum Food cultural events to showcase Solomon cuisine 	<ul style="list-style-type: none"> Develop information materials, extension services based on local expertise for subsistence farming in villages Cultural promotion and preservation Diversity of crops in village gardens Communal approach to food system action that develops people and products 	
Address prices & convenience	Food access and affordability	Market places and agencies exist which are oriented to fresh local food	<ul style="list-style-type: none"> Develop Ward markets for urban communities Scale-up - the sup garden programme with support from MAL officers HCC to support Market vendors association and Fishers associations 	Provincial government to support collaborative community development activities for affordable and convenient healthy food	

Source: Author's own elaboration.

GLOSSARY

agrifood system Encompasses the same drivers, components and activities as a ‘food system’ with the addition of non-food products, such as forestry, animal rearing, use of feedstock, and biomass to produce biofuels and fibres.

consumption/apparent consumption Food consumption has been directly estimated in just a few places in Solomon Islands. To fill the information gap, indicators or proxies for individual-level consumption estimated using household-level Household and Income Expenditure Survey (HIES) data are usually termed ‘apparent consumption’. This term recognizes that HIES-derived estimates of consumption are based on food quantities (edible amounts) available for consumption, not actual intake, and in most cases refer to the raw form before preparation. Summaries from HIES could under- or overestimate actual food intake compared with an individual-level survey. In this report, unless stated otherwise, ‘consumption’ is used as shorthand for ‘apparent consumption’ (see also Troubat, Sharp and Andrew, 2021).

Committee on World Food Security (CFS) This is the foremost intergovernmental and international platform dealing with food security and nutrition. It develops and endorses policy recommendations and guidance on a wide range of food security and nutrition topics.

community/livelihood value chain Food is exchanged via informal and non-financial transactions; social-cultural relationships exist between stakeholders.

driver Factor or process that has the potential to influence and shape the food system in terms of production and supply, trade and distribution, and demand and consumption.

food environment All the places and pathways through which people acquire and consume food, and the various characteristics of those environments that influence food choices.

food system All elements and activities related to the production, processing, distribution, preparation and consumption of food, the market and institutional networks for their governance, and the socioeconomic and environmental outcomes of these activities (HLPE, 2017).

food system component Key components of food systems are described as food supply chains, food environments and food consumption.

formal retail Retail with formal governance structures surrounding operations, such as supermarkets, central markets, shops and stores (Bogard *et al.*, 2021). *See also:* informal retail.

HLPE The 15 experts of the High Level Panel of Experts on Food Security and Nutrition (HLPE) advise the Committee on World Food Security (CFS) on the current state of food security and nutrition and its underlying causes.

informal retail Retail without formal governance structures surrounding operations, such as local markets, canteens, opportunistic vendors and mobile vendors. It should be noted that the distinction between formal and informal retail environments in terms of regulation is often not clear-cut and operates along a continuum rather than a dichotomy (Bogard *et al.* 2021). *See also:* formal retail.

market value chain Food is produced and distributed to formal markets where it is acquired by consumers with cash.

resilience The ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner (FAO, 2022).

Small Island Developing States (SIDS) A distinct group of 38 UN Member States and 20 Non-UN Members/Associate Members of United Nations regional commissions that face unique social, economic and environmental vulnerabilities.

Sustainable Development Goals (SDGs): 17 interlinked global goals set up by the United Nations General Assembly to be a “blueprint to achieve a better and more sustainable future for all”.

vulnerability State of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt (Adger, 2006).

United Nations Food Systems Summit (UNFSS) Held in September 2021. Over half of the United Nations Member States pledged to host national dialogue events as part of this summit, to begin conversations about improving food systems. Over 100 countries also signed up to develop national strategies for transforming their food systems. The Solomon Islands Ministry of Agriculture and Livestock with FAO organized three working groups in 2021 to coordinate the preparations of the Food Systems Summit Dialogues. A National Food System Summit Dialogue was held over 2 days in August 2021.

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