



REINFORCING PACIFIC FOOD SYSTEMS FOR COVID-19 RECOVERY

KEY IMPACTS, RESPONSES AND OPPORTUNITIES TO BUILD BACK BETTER



Food and Agriculture
Organization of the
United Nations



LIFAD
Investing in rural people

unicef 
for every child



World Food
Programme

REINFORCING PACIFIC FOOD SYSTEMS FOR COVID-19 RECOVERY

KEY IMPACTS, RESPONSES AND

OPPORTUNITIES TO BUILD BACK BETTER

© 2021 by the International Fund for Agricultural Development (IFAD)

The opinions expressed in this publication are those of the authors and do not necessarily represent those of the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF) or the World Food Programme (WFP). The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of IFAD, FAO, UNICEF or WFP concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The designations "developed" and "developing" countries are intended for statistical convenience and do not necessarily express a judgement about the stage reached in the development process by a particular country or area.

All rights reserved

Cover: ©IFAD/Todd M. Henry

ISBN 978-92-9266-175-5

Printed January 2022

CONTENTS

ACRONYMS	5
ACKNOWLEDGEMENTS	6
FOREWORD	7
INTRODUCTION	9
PRE-PANDEMIC FOOD SECURITY AND NUTRITION	11
The nutrition transition	11
Food security: Production, consumption, availability and affordability	17
MAIN ECONOMIC IMPACTS OF COVID-19 IN THE PACIFIC	20
Current economic projections	21
Remittances have held up despite predicted decreases	22
PANDEMIC IMPACTS ON PACIFIC FOOD SUPPLY CHAINS	24
Food production and farming inputs	25
Storage, handling and processing	27
Transport and marketing	28
Consumer food prices	31
Impact of the pandemic on household food consumption and nutrition	33
COUNTRY RESPONSES TO THE PANDEMIC	39
OPPORTUNITIES TO STRENGTHEN AND REALIGN DOMESTIC FOOD SYSTEMS	43
Boost local food production and consumption to ensure food and nutrition security	44
Target and empower vulnerable populations to achieve SDG 2 and ensure no one is left behind	45
Invest in digital, agricultural and climate-adaptation innovations	46
Improve food system resilience to shocks and crises	48
Track, measure and assess recovery needs and progress	49
ANNEX 1: FAO, IFAD, UNICEF AND WFP COVID-19 RESPONSE ACTIVITIES	51
FAO	51
IFAD	52
UNICEF	54
WFP	54

REFERENCES**56****TABLES**

Table 1	Prevalence of malnutrition: Pre-COVID situation in the Pacific Islands	16
Table 2	Pacific Islands GDP growth projections (annual percentage growth at market prices)	22

FIGURES

Figure 1	Total value and top five imports to Oceania (excluding Australia and New Zealand), 2000-2019	12
Figure 2	Food consumed from own production (%)	18
Figure 3	2019 tourism incomes (US\$ millions)	21
Figure 4	Seasonally adjusted remittance trends from September 2019 to August 2020 (in 2019 constant US\$ millions)	23

BOXES

Box 1	Important domestic staple food crops	26
--------------	--------------------------------------	----

ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
COVID-19	Coronavirus disease of 2019
FAO	Food and Agriculture Organization of the United Nations
IFAD	International Fund for Agricultural Development
mVAM	mobile Vulnerability Analysis and Mapping
NCD	non-communicable disease
PIC	Pacific Island Country
PIFON	Pacific Island Farmers Organisation Network
PIRAS	Pacific Islands Rural and Agriculture Stimulus
SDG	Sustainable Development Goal
TC	Tropical Cyclone
UNICEF	United Nations Children's Fund
USP	University of the South Pacific
WFP	World Food Programme
WHO	World Health Organization

ACKNOWLEDGEMENTS

This report was prepared by staff from IFAD, FAO, UNICEF and WFP deployed in the Pacific region in the first half of 2021, to feed into the Regional and National Food Systems Summit dialogue discussions in the Pacific. The report draws on findings from the Pacific Island Farmers Organisation Network (PIFON) report “COVID-19 Overview: Expected Impacts in the Pacific”, as well as several other assessments, studies and policy papers which have been released on this topic since the pandemic began. The analysis envisaged possible scenarios of eventual COVID-19 outbreaks. Thus, while the pandemic situation has since evolved in Fiji, and will continue to evolve throughout the Pacific, many of the findings are relevant for such scenarios.

Special thanks go to Angela Orlando, who synthesized findings from several reports and compiled drafts for review, and to Tamara Nicodeme from IFAD, who led and coordinated this multi-agency effort. Amra Lee from WFP, Kara Jenkinson and Itziar Gonzalez from FAO and Pradiumna Dahal from UNICEF were key contributors and team members. The document benefited from substantive inputs/reviews from Rasmiyya Aliyeva, Sridhar Dharmapuri, Fiasili Lam, Philippe Martins and Robert U. Lee from FAO; Ronesh Prasad from UNICEF; Andre Martinez and Nicolas Bidault from WFP; and Tawfiq El-Zabri from IFAD. The report has also benefited from PIFON-led assessments co-authored by Kyle Stice, Andrew McGregor and Lafaele Enoke, with the contributions of Angela Birch, Lavinia Kaumaitotoya, Selina Kuruleca, Sisilia Kuruleca, Tarun Chand, Livai Tora, Losalini Qiolevu, Kaitu Erasito, Ilikini Bulidamu and Ovini Sawiri. Thanks also go to Birgit Plockinger and Janet Sharpe, IFAD Communications Division, for their support in the production of this report.

FOREWORD

Across the world, the COVID-19 pandemic has imposed stresses on the ability of food systems to deliver their primary functions: providing food security and nutrition to growing populations, supporting livelihoods for farmers, fishers and workers along the agrifood chains, and supporting environmental sustainability and resilience. Pacific Island Countries (PICs) already suffered from the three types of malnutrition (undernutrition, overnutrition and micronutrient deficiencies) that constitute a triple burden of malnutrition. Their remoteness from international markets, dispersion of populations across many small islands, heightened vulnerability to the impacts of climate change, and natural resource constraints present distinct challenges, and also some opportunities, in adapting food systems to cope with the impacts of COVID-19. The pandemic has emphasized the importance of Pacific agriculture for both food security and economic development, as well as the crucial role of domestic food systems in providing resilience to shocks, livelihood options, self-sufficiency and insurance against food and nutrition insecurity.

The United Nations Socio-Economic Impact Assessment for COVID-19 in the Pacific Countries (2020) noted the vulnerability of Pacific food systems in relation to nutrition outcomes, as well as to livelihoods and employment. As part of the United Nations system's efforts to mitigate the impacts of COVID-19 on food systems, the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF) and the World Food Programme (WFP) have joined forces to examine the challenges posed by COVID-19 more deeply, with a view to defining key actions needed to respond to the current impacts, inform recovery planning and better prepare for future crises.

It is perhaps unsurprising to many practitioners in this field of work that the limitations and incompleteness of data on food security and nutrition have proven to be a challenge for evidence-based programming and policy, and the preparation of this report. The report recommends further investment in data collection, co-validation and knowledge-sharing on food security and nutrition, production, prices, commerce and utilization. Disaggregated data and analysis are particularly important for targeting the most vulnerable and ensuring that PICs can achieve Sustainable Development Goal (SDG) 2 (zero hunger) and ensure that no one is left behind. In the current context, this involves reaching women, children, adolescents, people with disabilities, youth and those engaged in the informal sector, who have been particularly affected by the pandemic.

The report offers a consolidated analysis of food security and nutrition challenges and how they are impacted by COVID-19, as well as opportunities and needs to build a more resilient and sustainable food system in the Pacific.

United Nations agencies continue to actively engage with governments and partners on the issues raised in this report through Food Systems Summit dialogues, as well as through the Regional Pacific Food Security and Health and Nutrition clusters. This report aims to contribute to the continuing dialogue and collaborative efforts among cluster members, who together play a key role in sharing updated analysis and advocacy on the impacts of COVID-19 on food security and nutrition in the Pacific. With this document, the agencies reaffirm their commitment to continue to collaborate with each other and other United Nations agencies, PIC governments, food producers and civil society towards achieving SDG targets and building more sustainable and resilient food systems across the Pacific.



INTRODUCTION

©Mona Sur/World Bank

Small Island Developing States face many similar development challenges, including limited land mass and arable land; small and often scattered populations; fragile natural environments; dependence on imported energy sources; and high level of vulnerability to the impacts of climate change, including the increased frequency of natural hazard events. These challenges are further compounded by external economic shocks; heavy reliance on food imports; a limited number of economic sectors; distance from global markets; the triple burden of malnutrition (the coexistence of undernutrition, micronutrient deficiencies and overnutrition); and high rates of diet-related non-communicable diseases (NCDs) (FAO, 2020f). There are also pervasive gender, age and diversity inequalities with resulting impacts on achieving Sustainable Development Goal (SDG) 2 (zero hunger) – aiming at achieving food security and improved nutrition, and promoting sustainable agriculture – and ensuring that no one is left behind.

The COVID-19 pandemic is challenging the food security, nutrition and climate resilience of Pacific Small Island Developing States even further through a slow-onset economic downturn. The severity of the impact of the pandemic varies between countries due to the different characteristics of their economies, such as the level of dependence on imported food, of integration with global supply chains, the role of the tourism and travel industry relative to the size of the economy, as well as the land and marine resources and freshwater constraints in each country. One potentially positive outcome from the pandemic has been the increased attention to local agriculture, which may spur opportunities for higher competitiveness in agriculture, thereby expanding opportunities for rural people and contributing to improved health and nutrition.

This report synthesizes a range of regional and national food security and nutrition assessments up to December 2020¹ on the major impacts of the COVID-19 pandemic in the Pacific region. An important caveat is that the majority of publicly available assessments and reports on the food security and nutrition impacts of COVID-19 have focused on Fiji, Samoa and the Solomon Islands. A few have included Kiribati, Vanuatu, Tonga and Tuvalu, but less information has been collected on other Pacific Island Countries (PICs). Papua New Guinea is not within the scope of this report.

This work expands the initial collaborative work undertaken by United Nations agencies and development partners to inform the Pacific Humanitarian Team's COVID-19 Humanitarian Response Plan (May 2020), the Socio-Economic Impact Assessment of COVID-19 in Fiji (July 2020) and the United Nations Country Team's COVID-19 Multi-Sectoral Response Plan (August 2020), and to assess trends in food security and livelihood vulnerability through the World Food Programme (WFP) mobile Vulnerability Analysis and Mapping (mVAM). Ultimately, this report aims to inform ongoing COVID-19 responses and identify opportunities for future collaborative responses to reinforce Pacific regional and national food systems as a key driver of regional resilience and recovery.

1. This report does not include any information concerning the April 2021 COVID-19 outbreak in Fiji.



PRE-PANDEMIC FOOD SECURITY AND NUTRITION

©IFAD/Susan Beccio

The Pacific's pre-COVID-19 food security and nutrition challenges described below are well documented within the region. This overview is intended to provide a descriptive baseline of the pre-pandemic food security and nutrition situation against which to assess how COVID-19 impacts are further exacerbating prior challenges and which opportunities have emerged during the pandemic to improve them.

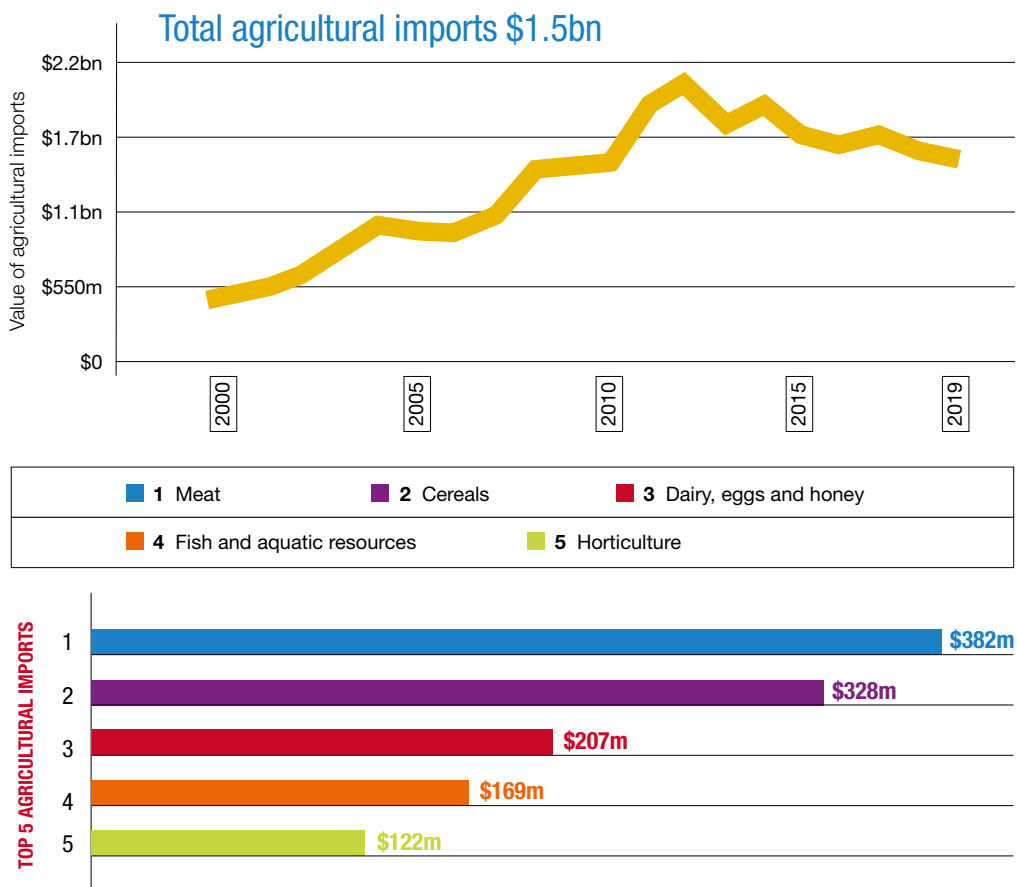
The nutrition transition

In the past two decades, there has been a rapid transformation of the food system and a nutrition transition in PICs characterized by an erosion of traditional lifestyles, food systems and diets; reduced dietary diversity; and increasing dependence on imported and processed foods, often of poor nutritional value. These characteristics contribute to a “triple burden of malnutrition”: the coexistence of undernutrition, including high rates of child stunting and micronutrient deficiencies, and a soaring prevalence of overnutrition (overweight and obesity), together with other NCDs, including diabetes and cardiovascular disease.

Increased dependency on imports

A recent Australian Centre for International Agricultural Research (ACIAR) report on the impacts of COVID-19 highlights that the pronounced globalization of Pacific food systems is hastening a decline in total agricultural output in parallel with increases in food imports – the latter almost tripling in value from 2000 to 2018 (Farrell et al., 2020, cited in Robins et al., 2020). Imported food items currently comprise a significant proportion of PIC households’ daily energy consumption, though there are differences between countries regarding the top products imported. Regionally, the top five agricultural imports in the Pacific region include meats (mainly chicken, beef and sheep); cereals (mainly rice and wheat); dairy (mainly milk, cheese and butter); fish; and fruits and vegetables (figure 1). While such detailed quantification is not available for subcategories, these imports are known to include significant amounts of highly processed and unhealthy foods, processed meats, edible oils (particularly palm and vegetable) and manufactured convenience foods, including carbonated soft drinks, noodles and baked goods (Sievert et al., 2019). The small quantities of imported fresh fruits and vegetables are particularly important for those countries in which their production is constrained. However, high prices often prohibit them from being purchased and consumed in sufficient quantities to significantly improve nutrition (Jones and Charlton, 2015).

FIGURE 1: Total value of agricultural imports to Oceania (excluding Australia and New Zealand), 2000-2019



Source: Resourcetrade.earth
<https://resourcetrade.earth/?year=2018&importer=ocn&category=1&%20units=value>
 (Accessed 6 Dec 2020)

High import dependency has complex health and economic implications for Pacific Islanders. Overconsumption of imported processed foods poses a significant risk to overnutrition and is acknowledged by countries in the Pacific. There is evidence suggesting that palm oil consumption can increase risks of NCDs, including cardiovascular disease, high cholesterol and insulin sensitivity (Kadandale et al., 2019; Chen et al., 2011). Similar concerns exist regarding the consumption of poor-quality meats (e.g. mutton flaps), which are extremely high in saturated fat and linked to overweight, obesity, cardiovascular disease and other NCDs (Evans et al., 2001). White rice, though not ultraprocessed, is considered less healthy than wholegrain, unprocessed staple alternatives (e.g. breadfruit, plantain, taro) and has been linked to an increased prevalence of diabetes (Hu et al., 2012). Still, reducing access to and consumption of rice might push households that rely on it as a staple into food and nutrition insecurity. A similar concern exists regarding imported meats. Given that protein intakes are already insufficient across the Pacific, further limitations on protein would be detrimental to overall health and nutrition.

Furthermore, WFP's macro analysis of the agricultural import dependency of Fiji, Samoa, the Marshall Islands, Tonga, Tuvalu and Palau showed worrying overall market and trade vulnerabilities (WFP, 2020a). Import ratio calculations for cereals, dairy, eggs and honey, meat and oilseed for these six countries were very high, with the lowest being 84 per cent for cereals in Fiji. The observed import dependency points to vulnerability to global price fluctuations, at varying degrees of risk depending on countries' domestic production. Tuvalu had the highest import ratios of all the countries in the macro analysis, making it the most susceptible to inflation, with ratios around 100 per cent for all available data on agricultural products. Though import ratios are only indicative of the situation in these PICs before COVID-19, they pose worrying signs of import dependency and vulnerability to price volatility of agricultural products (WFP, 2020a).

Decreased diet quality

The region is experiencing accelerated changes in dietary patterns – a nutrition transition – towards decreased dietary diversity and lower-quality diets. Trends over the last several decades indicate that “diets have shifted from being high in locally grown fresh fruits and vegetables, seeds and nuts, lean meat and seafood, to diets high in processed and often imported foods” (Throw et al., cited in Farrell et al., 2020). In addition to micronutrient adequacy, high-quality diets should have a balanced intake of protein, raw/unprocessed carbohydrates and healthy fats, and moderation in consumption of ultraprocessed foods (foods high in sugar, fat and salt, and low in micronutrients) that are associated with increased risks of chronic disease (FAO and FHI 360, 2016; Monteiro et al., 2019).

Data on access to food and dietary diversity are mainly available in aggregate for a few countries. Sporadic data suggest that dietary diversity is poor across various population groups in the Pacific, and largely skewed towards cereals and processed products, with very low consumption of fruits and green vegetables. The minimum dietary diversity (i.e. consumption of diets from more than five out of eight food groups) among children aged 6-23 months is fairly poor in the Pacific, ranging from as low as 9.3 per cent in Kiribati to as high as 54.7 per cent in Fiji (Kiribati National Statistics Office, 2019). Children from rural areas (Kiribati 6 per cent, the Marshall Islands 30 per cent, Samoa 19 per cent) and from poorer households (Kiribati 5 per cent, the Marshall Islands 31 per cent, Samoa 19 per cent) are more likely to be fed with poor diets as compared to their urban (Kiribati 12 per cent, the Marshall Islands 45 per cent, Samoa 25 per cent) or wealthier (Kiribati 13 per cent, the Marshall Islands 61 per cent, Samoa 32 per cent) peers.

UNICEF's 2018 formative research on nutrition in the Marshall Islands, the Solomon Islands and Kiribati provides some insight into the primary barriers to consuming more diverse and nutritious foods. The main factors contributing to diets low in protein, fruits and vegetables are: (i) the affordability and availability of nutrient-dense foods relative to fresh local foods; and (ii) preferences for processed, store-bought food items, which are often more affordable and convenient than healthier alternatives. In all countries, exclusive breastfeeding is hampered by competing demands, perceived inadequate breast milk, and traditional medicines.

Although caregivers in the Marshall Islands consistently demonstrated a high level of knowledge about the importance of dietary diversity, they had a low perceived risk of nutrition-related illnesses. Across the food system of the Marshall Islands, there is high availability of processed, energy-dense foods, yet inconsistent availability of nutritious foods important for young children's growth and development. Among children aged 6-11 months, consumption of proteins from animal sources is low, and seasonal fruits and vegetables are not typically fed to young children. At the individual level, most processed foods are preferred to local foods, with convenience and flavour preferences driving food choices. Present-day food choices are more strongly governed by convenience and ease of preparation than by consideration of nutritional value. Store-bought food items are considered "fast", "easy" and "ready to eat".

In the Solomon Islands, caregivers consider local fresh foods to be most nutritious, and processed foods such as noodles, canned tuna and packaged snacks to be least nutritious for young children. Nevertheless, the convenience of buying and preparing processed foods over local fresh foods, in both rural and urban areas, is an important barrier to improving children's dietary diversity. In urban areas, the high prices of local fresh foods present an additional barrier to a nutritious and diverse diet for young children. In rural areas, preferences for processed foods over local fresh foods (particularly for rice over traditional staples such as potato and cassava), as well as the lack of affordability of protein-rich foods emerged as prominent additional barriers to dietary diversity. Protein-rich foods such as eggs, fish and chicken are the least affordable foods for young children in both urban and rural areas. The consumption of deep-sea fish (e.g. tuna, barracuda), which could provide alternative sources of protein, is discouraged by food taboos that link these fish with mouth rash ("fish sick") in young children during complementary feeding, as well as during pregnancy and lactation.

In Kiribati, there is little dietary diversity in typical rural and urban households' meals, which most commonly consist of rice and fish. Meals rarely contain vegetables, due to the combined influences of:

- Food security-related challenges (i.e. low availability of vegetables due to poor growing conditions and high market prices for fresh foods in urban areas)
- Habit (i.e. people are accustomed to eating carbohydrate- and protein-based meals, as these foods are commonly available)
- Buying and preparation convenience (i.e. local foods such as giant taro are labour-intensive to procure and prepare).

Cultural perceptions, particularly around the value of leafy greens, also influence typical meals. Traditionally, leafy greens are considered food for pigs rather than for humans. Despite recent community-level nutrition education efforts promoting the nutritional value of leafy greens and encouraging families to incorporate them into their diet, few reported consuming them.

Nutrition status

Many Pacific countries' populations, particularly women and children, are affected by a triple burden of malnutrition: stunting, micronutrient deficiencies (mainly anaemia), and overweight and obesity (UNICEF, 2020). Undernutrition and overweight are both associated with the increasing dependence on unhealthy foods, mostly with high sugar and fat contents.

Stunting. Stunting remains an important issue to be addressed in the Pacific in five out of nine countries where data are available. According to the World Health Organization (WHO)-UNICEF public health threshold, prevalence of stunting is high (20-30 per cent) in Nauru and Vanuatu, very high (>30 per cent) in the Solomon Islands and the Marshall Islands, and medium (less than 20 per cent) in Kiribati. Samoa, Fiji, Tonga and Tuvalu have low rates of stunting (less than 10 per cent). Stunting prevalence varies from as low as 2.2 per cent in Tonga to 35.3 per cent in the Marshall Islands (see table 1).

Stunting prevalence for Vanuatu, the Solomon Islands and the Marshall Islands was last collected through surveys administered in 2013, 2015 and 2017, respectively. More recent data are available from UNICEF Multiple Indicator Cluster Surveys carried out in 2019 for Tonga, Samoa, Tuvalu and Kiribati, and in 2020-2021 for Fiji. The Cook Islands, the Federated States of Micronesia, Niue, Palau and Tokelau do not have estimates of stunting prevalence.

Although there is no Pacific-wide study, evidence from the Marshall Islands shows that child stunting, regardless of the nutrition status of the mother, is influenced by shorter maternal height and indicators of poverty. Risk of mother-child double burden – where the child is stunted and the mother is overweight – increases with maternal age and higher education, and remains associated with poorer households (Blankenship et al., 2020).

According to the inter-agency Joint Child Malnutrition Estimates group, the proportion of children affected by stunting in Oceania (excluding Australia and New Zealand) and Melanesia (including Papua New Guinea) increased from 35.6 per cent in 2000 to 41.4 per cent in 2020. But in the subregions of Micronesia and Polynesia, the prevalence of stunting decreased from 18.5 per cent to 15.2 per cent and from 10.4 per cent to 6.7 per cent, respectively, between 2000 and 2020 (UNICEF, WHO and World Bank, 2021).

Wasting. Wasting (low weight for height) is not a major nutrition problem in the Pacific, although in the Solomon Islands the proportion of children who are wasted (i.e. suffering from acute malnutrition) is 7.9 per cent (the WHO-UNICEF threshold for medium prevalence is 5-10 per cent).

Micronutrient deficiencies. Anaemia, used as a proxy for micronutrient deficiencies in the region, remains a problem and affects children, men and women, especially in rural areas. The prevalence of anaemia ranges from 22 per cent to 41 per cent in women and from 27 per cent to 49 per cent in children under the age of 5 years in the 13 countries (table 1). The data for anaemia come from the WHO Global Health Observatory, which estimates that the countries may be approaching or surpassing the threshold for severe anaemia (with rates over 40 per cent) in children (WHO, 2019).

TABLE 1: Prevalence of malnutrition: Pre-COVID situation in the Pacific Islands

Country	Stunting among children under 5 (%)	Wasting among children under 5 (%)	Overweight among children under 5 (%)	Overweight among women 15-49 years (%)	Anaemia among women 15-49 years (%)	Anaemia among children under 5 (%)	Minimum dietary diversity ^a among children 6-23 months (%)
Group 1: Relatively large Melanesian							
Fiji	7.2	4.6	7.7	67.7	32	39.9	54.7
Solomon Islands	31.6	7.9	3.9	60.5	37.7	38.1	37
Vanuatu	28.5	4.4	4.6	62	28.5	31	71
Group 2: Middle-sized Polynesian							
Samoa	7.3	3.1	8.7	85.2	26.8	35.5	20.0
Tonga	2.2	1.1	11.2	82.2	28.5	34	53.5
Group 3: Land-poor micro-states (predominantly atolls)							
Cook Islands	-	-	-	85.8	27.1	27	-
Kiribati	15.2	3.5	2.1	80.9	32.6	49.4	9.3
Micronesia	-	-	-	74.7	25	36.7	-
Nauru	24	<1.0	3	88.7	29.6	41.8	-
Niue	-	-	-	82.5	27.3	36.3	-
Palau	-	-	-	85.9	28.5	33.5	-
Marshall Islands	35.3	3.6	3.8	72.7	30.6	39.5	42.5
Tuvalu	5.7	2.8	4.2	83.8	27.5	41.9	29.3

^a From 2017, minimum dietary diversity is five out of eight food groups (including breast milk). Data shown for Vanuatu and the Solomon Islands predate this change and refer to three+ for breastfed and four+ for non-breastfed children.

- No data available

Sources: Stunting, Wasting, Overweight among children, Minimum dietary diversity: Fiji: Fiji MICS 2021; Solomon Islands: Solomon Islands DHS 2015; Vanuatu: Vanuatu DHS 2013; Samoa: Samoa MICS 2019; Tonga: Tonga MICS 2019; Kiribati: Kiribati MICS 2018; Nauru: SOWC 2019; Marshall Islands: RMI ICHNS 2017; Tuvalu: Tuvalu MICS 2019.

Anemia among women and children from 2019 World Health Organization Global Health Observatory Data Repository

Overweight among women from 2019 World Health Organization Global Health Observatory Data Repository except for Samoa (from Samoa 2019 MICS) and Marshall Islands (from RMI ICHNS 2017).

SOWC=The State of the World's Children (UNICEF); **WHO GHO**=World Health Organization Global Health Observatory Data Repository; **DHS**=Demographic and Health Surveys; **MICS**=Multiple Indicator Cluster Surveys (UNICEF); **ICHNS**=Integrated Child Health and Nutrition Survey.

Overweight and obesity. Rates of childhood overweight are high (10-15 per cent) in Fiji, Samoa, Tuvalu and Tonga (Multiple Indicator Cluster Surveys 2019-2020). In 3 countries (Fiji, Solomon Islands and Vanuatu) the rates of maternal overweight are between 60 per cent and 80 per cent, while in the other 11 countries more than 80 per cent of women are overweight or obese (WHO, 2019). Being overweight or obese is a major factor in COVID-19 complications and mortality (Anderson, 2021). Pacific Islanders have the highest prevalence of overweight globally, with over half of adults overweight or obese and childhood obesity a growing concern (PIFS, 2018). The four countries with the highest obesity rates globally are Micronesian or Polynesian States: the Cook Islands, Tonga, Samoa and Kiribati (Anderson, 2021).

The 2019 “State of Food Security and Nutrition in the World” reports that the prevalence of overweight is increasing in “all age groups, with particularly steep trends among school-age children” and adults. Among school-age children, prevalence has nearly doubled since 2000. The Pacific is one of only two regions in the world in which overweight among preschool children (under 5 years old) has increased by more than a percentage point since 2000 (FAO, IFAD, UNICEF, WFP and WHO, 2019).

Stunting, micronutrient deficiencies and overweight remain strong concerns in the Pacific and must be monitored more consistently. The adverse health outcomes of overnutrition in the Pacific Islands have resulted in crisis levels of NCDs, such as coronary heart disease and type II diabetes, which have been increasing steadily in recent years. Pacific rates of NCDs and accompanying risk factors are some of the highest in the world and are responsible for about “70 to 75 per cent of all deaths in the PICs and up to 84 per cent of deaths in Fiji and Samoa” (PIFS, 2018). They are the leading cause of preventable death in the Pacific, with a very high incidence of NCD-related deaths of those under the age of 60. In Micronesia, Kiribati, the Cook Islands and Samoa, the proportion of the population with diabetes is nearly triple the estimated global prevalence of 10 per cent. Seven Pacific countries are in the top 10 countries globally with the highest incidence of diabetes (PIFS, 2018).

Food security: Production, consumption, availability and affordability

Primary food production is a core component of the Pacific region’s economies, for which they largely depend on smallholder farmers and artisanal fishers. In many rural areas of the Pacific, the majority of people produce and consume food from their own farms, supplemented with purchased foods. Most Pacific Small Island Developing States typically produce less than 65 per cent of their dietary energy supply domestically and rely substantially on food imports (FAO, 2020g). The means by which they generate revenues to pay for imports varies significantly between countries and is a key factor determining each country’s food security (PIFON, 2020c). Fisheries, both oceanic and coastal, provide a major source of food and income for a number of Pacific Island peoples.

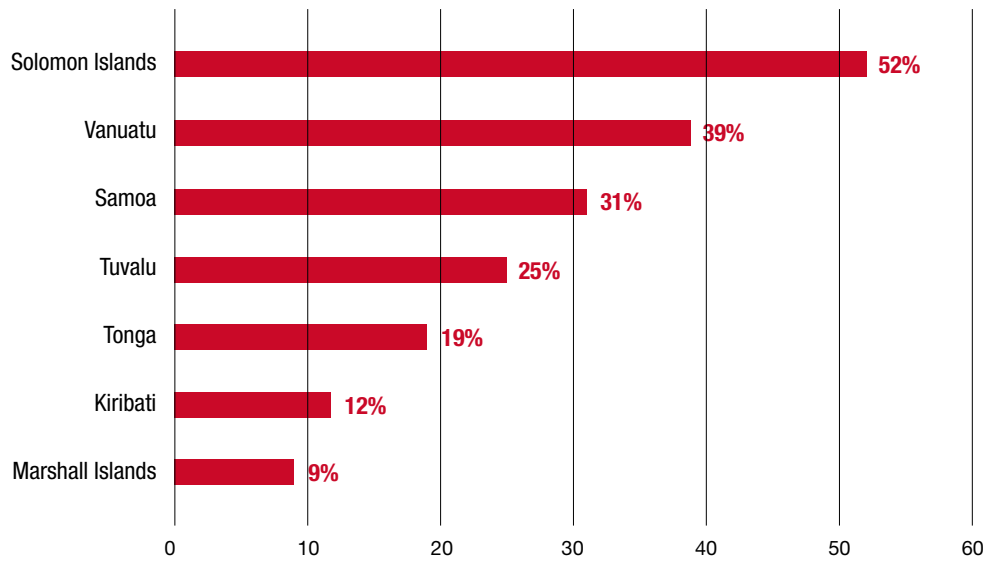
Coastal fisheries are an important source of income for about 50 per cent of households across the Pacific region (Robins et al., 2020). Annual national fish consumption per capita ranges from 20 kg to 110 kg (i.e. up to five times the global average), and fish traditionally caught from coral reefs by small-scale fisheries provide 50-90 per cent of dietary animal protein for coastal communities. By 2035, population growth and the negative effects of climate change on coral reef fish production will create demand for an additional 75,000 tons of fish per year for good nutrition of coastal and urban communities (SPC, 2019). Several countries and territories in the region consume a high quantity of fish, including imported tinned fish, and supplement their diets with protein from imported meats and milk products. Fish consumption is particularly important in rural outer islands, where alternative protein sources are limited (WFP, 2018).

Furthermore, distinct climate challenges faced by PICs also have significant consequences for food security and nutrition. In several countries, the primary concern is a higher frequency and severity of extreme events that cause widespread crop and agricultural damage, and threaten food stability and affordability. In other areas, water and soil salinity are more critical issues induced by climate change, affecting health and nutrition.

The larger Melanesian countries (Fiji, Vanuatu, Solomon Islands) have comparatively diverse food production, and varied dependence on rural livelihoods. In the Solomon Islands and Vanuatu, 70-80 per cent of the population live in rural areas and are involved, to some extent, in agriculture and/or fishing. Fifty-two per cent of total dietary energy consumed in the Solomon Islands comes from own production. The scale and contribution to GDP of agriculture is significantly higher in the Solomon Islands and Vanuatu than in Fiji (Robins et al., 2020). In Fiji, a wealthier country with a more diversified economy, less than half of the population live in rural areas. Agriculture’s contribution to Fiji’s national GDP has been declining for the past two decades and is currently estimated at around 8 per cent (Investment Fiji, 2019). Agriculture (excluding fisheries) contributes to around 28 per cent of total employment in the formal sector, and employs many more people indirectly (ADB, 2015; Investment Fiji, 2018).² Together, these suggest low productivity of the agriculture sector and scarce opportunities for other sectors to absorb surplus or non-skilled labour.

The mid-sized Polynesian countries (Samoa, Tonga) have limited land, small populations and high labour mobility, and are more reliant on imports and remittances. In Tonga, where over 77 per cent of the population live in rural areas and agriculture takes up 45.8 per cent of land (Robins et al., 2020), about 19 per cent of the total dietary energy consumed by the population comes from own production and 67 per cent comes from purchased food.

FIGURE 2: Food consumed from own production (%)



Source: FAO/SPC analysis based on national Household Income and Expenditure Surveys.³

2. The Asian Development Bank’s 2015 paper estimates agriculture’s contribution to employment at 45 per cent, but the authors believe the 28 per cent reported in 2018 by Investment Fiji is more realistic. Both are pre-COVID-19 estimates.

3. Household Income and Expenditure Surveys carried out in: Solomon Islands 2012/13; Tonga and Tuvalu 2015/16; Samoa 2018; and Kiribati, Marshall Islands and Vanuatu 2019/20. A compendium of Country Food Security Profiles (FAO, 2019-2021) is available at <http://www.fao.org/asiapacific/resources/pacific-publications/en/>.

In Samoa, 82 per cent of the population live in rural and peri-urban areas. On average, 31 per cent of the population's dietary energy comes from own production, with purchased food products, mainly imported, making up 60 per cent of their dietary energy (Troubat et al., 2020). These high levels of imports seem to correlate substantially with obesity, illustrated by Tonga and Samoa being classified as exhibiting the second and third highest incidence of obesity globally (Anderson, 2021).

The micro-states (the Cook Islands, Micronesia, Kiribati, Nauru, Niue, the Marshall Islands and Tuvalu), predominantly atolls, which are the most food-insecure, produce only small volumes of traditional staples and very few fruits and vegetables. They are far more reliant on fisheries than agriculture. In some rural communities, particularly in Tokelau and Palau, fish is often the only source of animal protein, whereas in the Marshall Islands, Tonga, Tuvalu and Kiribati fish and fish products contribute 28 per cent, 20.6 per cent, 33 per cent and 40 per cent, respectively, of protein intake (FAO/SPC analysis, based on national Household Income and Expenditure Surveys).⁴ Their populations depend on large per capita volumes of imported food and have limited export earning capacity to purchase it (Robins et al., 2020; PIFON, 2020c).

Overall, in the Pacific Islands, with the exception of the smaller island States, there has generally been sufficient availability of locally grown food to avoid food scarcity and hunger. Most households in the Pacific consume sufficient dietary energy. However, some households in the Pacific face difficulty in accessing safe, sufficiently diverse and nutritious foods, rather than enough quantity of food, and are thus food-insecure. This is due to a combination of factors, including inadequate household income, food affordability, a preference for imported food which is often cheaper and more convenient, and a lack of preservation, conservation and processing of fresh foods (PIFON, 2020c). Food affordability and supply stability are important factors affecting Pacific food security. Seasonality makes some vegetables and fruits only available and affordable for a few months out of the year, and importing fresh produce is generally cost-prohibitive and further challenged due to a lack of cold storage facilities.

4. Based on analysis of Household Income and Expenditure Surveys carried out in: Solomon Islands 2012/13; Tonga and Tuvalu 2015/16; Samoa 2018; and Kiribati, Marshall Islands and Vanuatu 2019/20.



MAIN ECONOMIC IMPACTS OF COVID-19 IN THE PACIFIC

©IFAD/ Todd M. Henry

While there have been very few confirmed cases of COVID-19 across PICs, the economic impacts of the pandemic have been extensive. Governments quickly enacted containment and safety measures to prevent the development of a health crisis, including the closure of international borders (air and sea), movement restrictions within and between countries, lockdowns, curfews, restrictions on large gatherings, and school closures. At the time of publishing, several governments have eased or lifted movement and business restrictions, some are maintaining public health states of emergency, and nearly all countries have ongoing travel bans or restrictions (Crisis24, 2021). Seven of the 14 countries and territories covered in this report have been affected by COVID-19 infection, with cumulative totals of 52,219 confirmed cases and 674 deaths (as of 3 November 2021).⁵

The resulting economic impacts of the pandemic on the whole Pacific region have been significant:

- Reduced incomes resulting from the unprecedented loss of tourism-related activities and initial slowing of remittances
- A deterioration in government finances and availability of public sector funding

5. <https://covid19.who.int/table>

- Disruption of local and global supply chains and higher volatility in food prices for affected commodities
- Decline in exports because of less frequent air freight and increased freight costs.

Current economic projections

In 2020, all PICs fell into recession. Poverty in the region stopped declining for the first time in 20 years, and Fiji’s economy experienced the fourth most severe contraction in the world (World Bank, 2021b).

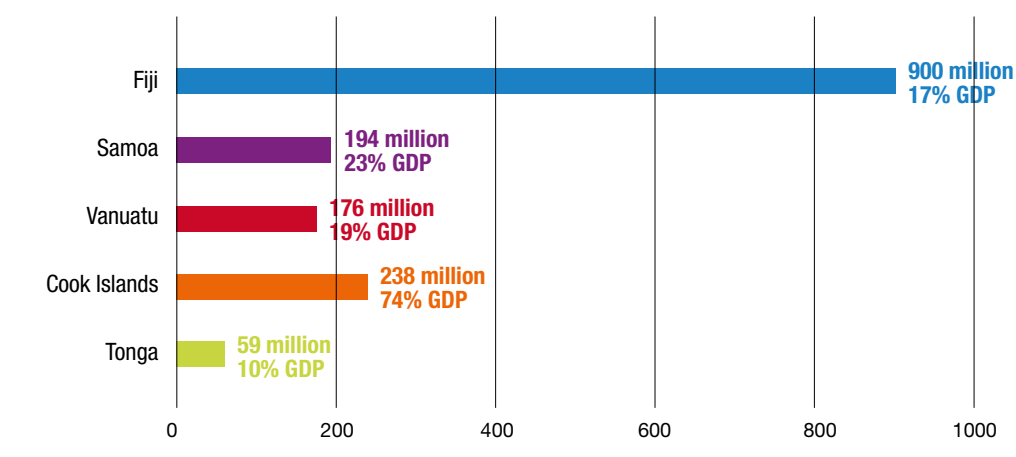
Economies have been impacted differently by border closures, with tourist-dependent economies suffering the most (figure 3). The regional economic losses due to the halting of tourism are estimated at US\$1-2 billion (Farrell et al., 2020). Fiji, the Cook Islands, Palau and Vanuatu are heavily dependent on tourism, and it also makes a significant contribution to the economies of Samoa, Tonga and Niue, and a somewhat smaller contribution to the Solomon Islands.

The World Bank (2021b) reports that the economic contraction has been particularly persistent in Fiji, Palau and Vanuatu, with “output in 2020 remaining more than 10 per cent below pre-pandemic levels”.

There is also concern that prolonged disruptions in the hospitality sector have the potential to raise household poverty rates across the region by between 10 and 20 percentage points. The World Bank (2020b) estimates that the effect could be severe in Fiji, Samoa and Tonga – a 50 per cent income loss to households in hospitality and related sectors could increase absolute poverty rates from around 40-50 per cent to 50-60 per cent.

The COVID-19 crisis has been exacerbated in Fiji, Tonga, the Solomon Islands and Vanuatu by Tropical Cyclone (TC) Harold, which struck in April 2020, and a measles outbreak in Samoa in late 2019 which triggered a nationwide state of emergency (World Bank, 2021a). Fiji continues to be devastated by additional tropical cyclones, including TC Yasa in December 2020, the strongest cyclone to hit Fiji since 2016, and TC Ana in January 2021. Elsewhere in the region, Tuvalu was hit by TC Tino in January 2020, and Palau was struck by TC Surigae in April 2021.

Figure 3: 2019 tourism incomes (US\$ millions)



Source: FAO. 2020. *Impacts of COVID-19 on the food systems in the Pacific Small Island Developing States and a look into the PSIDS responses*. Rome: Food and Agriculture Organization of the United Nations.

Their combined effects are expected to have a lasting negative impact on the region's food security, value chains and livelihoods.

Projections for recovery and growth depend heavily on the assumptions that the COVID-19 crisis is contained, borders will reopen in late 2021, tourism rebounds, public investment increases, and the private sector regains momentum. Still, global tourism is not expected to return to pre-pandemic levels until 2023, which will delay recovery for tourist-dependent economies (World Bank, 2021b).

Remittances have held up despite predicted decreases

For many households, especially in the mid-size Polynesian and small micro-states, remittances from family members working overseas are an important supplement of household income that supports their livelihoods, especially for those residing in rural areas. The International Monetary Fund (IMF, 2020) estimates that remittances contribute, on average, about 10 per cent of GDP in the Pacific Islands. They are particularly important in Tonga, where they exceed 40 per cent of GDP, and in Samoa and the Marshall Islands (each about 15 per cent of GDP).

An analysis of central bank data for Fiji, Samoa and Tonga published in November 2020 by the Australian National University Development Policy Centre shows that after initial decreases in remittances between January and April 2020, all three countries experienced a rebound in May 2020 (Howes and Surandiran, 2020). Since then, Fiji's remittance levels have increased erratically, Samoa's have stabilised, and Tonga's are steadily increasing (ibid.). The World Bank (2020a) still predicts a 4 per cent drop in Pacific remittances in 2020 and 2021. Uncertainty remains high, and analysts urge aid agencies and governments to monitor the data carefully. FAO (2020c) ranks Tonga and Samoa as most vulnerable to remittance declines, followed by the Marshall Islands, Tuvalu, Kiribati and Fiji.

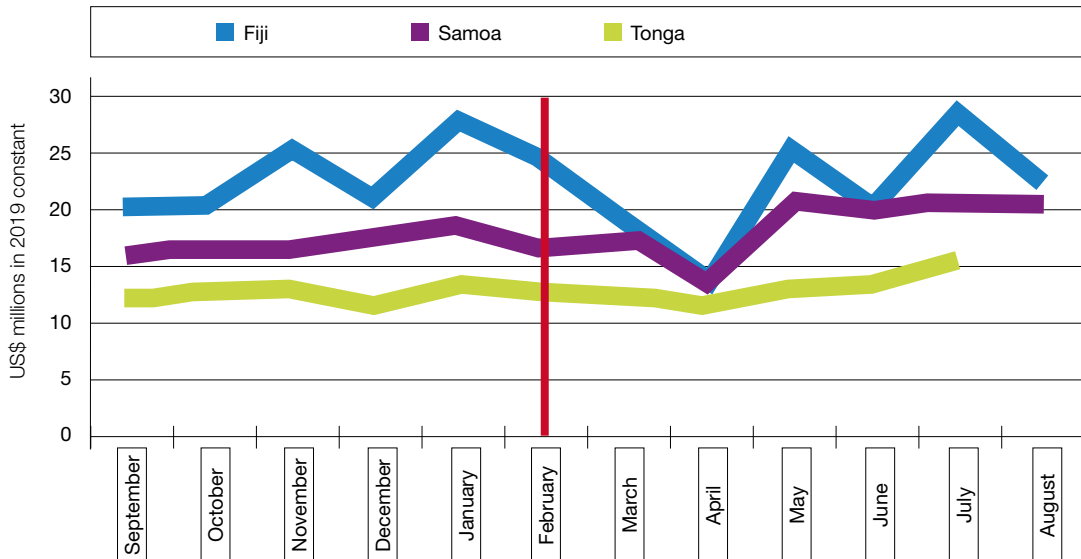
TABLE 2: Pacific Islands GDP growth projections (annual percentage growth at market prices)

	2019	2020	2021	2022	2023
Fiji	-0.4	-19	2.6	8.2	6.9
Kiribati	3.9	-1.9	3.0	2.6	
Marshall Islands	6.6	-4.5	-1.0	3.0	2.0
Micronesia	1.2	-1.5	-3.5	2.5	1.0
Nauru	1.0	0.7	1.3	0.9	
Palau	-4.2	-10.0	-4.0	12.0	6.0
Samoa	3.5	-3.5	-7.7	5.6	4.9
Solomon Islands	1.2	-5	2.0	4.5	4.3
Tonga	0.7	-1.5	-3.0	2.3	2.8
Tuvalu	4.1	-0.5	3.0	4.0	
Vanuatu	3.0	-10.0	4.0	3.9	3.3

Source: World Bank Macro Poverty Outlook, East Asia and the Pacific, Spring Meetings 2021.

Notes: Values for 2021-2023 represent forecasts. Values for 2020 for the small island economies refer to GDP growth estimates. For the following countries, values correspond to the fiscal year: Micronesia, Palau and Marshall Islands (1 October to 30 September); Nauru, Samoa and Tonga (1 July to 30 June).

FIGURE 4: Seasonally adjusted remittance trends from September 2019 to August 2020 (in 2019 constant US\$ millions)



Source: Howes, S. and S. Surandiran. 2020. Pacific remittances: holding up despite COVID-19. DevPolicy blog, 16 November. Development Policy Centre. <https://devpolicy.org/pacific-remittances-covid-19-20201116/>

A reduction in remittances could severely affect women-headed households, which in many countries tend to receive more remittances than other types of households. According to mVAM results, in Fiji, Samoa, Tonga, Kiribati and Vanuatu, female-headed households receive remittances at higher rates than male-headed households. Though mVAM only captures receipts and not amounts, there were sizeable declines in the share of female-headed households reporting having received remittances in response to COVID-19 when compared to later in the year in Fiji and Vanuatu, pointing to a drop in the frequency of remittance received due to COVID-19. Tonga and Samoa held steady, while Kiribati showed an increase from 20 per cent to 26 per cent (WFP, 2020b).



PANDEMIC IMPACTS ON PACIFIC FOOD SUPPLY CHAINS

©IFAD/Susan Beccio

The pandemic has had far-reaching impacts in the Pacific, which have been experienced through disrupted local and global supply chains, suspension of international travel, reduced demand for exports, increased pressure on natural resources, and the economic shocks being experienced by the global economy and major trading partners in the region. These impacts have knock-on consequences affecting agriculture, food security and nutrition in a variety of ways.

The time of occurrence and duration of the impacts described below vary. Regardless of their duration, these impacts highlight some key vulnerabilities within regional food systems, their level of resilience and their ability to adapt in the face of a protracted regional and global crisis. They also provide important information about the effects of lockdowns which could recur in the event of community virus transmission or other health/climate crisis. The major drivers of these impacts have been the closure of borders to travel and the economic downturn, both of which are likely to continue until vaccinations are delivered and widely administered.

Resurging importance of local agriculture

The COVID-19 crisis has exposed critical vulnerabilities of import-dependent food systems in the Pacific. In response to reduced access and ability to purchase imported foods, people have increasingly relied on small-scale fishing activities and home gardening as a fall-back strategy and are consuming more local foods. For example, the World Bank's high-frequency survey for the Solomon Islands, undertaken in June 2020, found that market demand fell due to home consumption (World Bank, 2020d). Governments have boosted local production of staple foods, supported planting initiatives to transition towards import replacement crops,⁶ and organized small-scale production to ensure food supplies. These measures, and the renewed emphasis on local agriculture, have the potential to steer further change to improve diet quality, nutrition, food stability and other challenges described in 'Main economic impacts of COVID-19 in the Pacific' above.

Food production and farming inputs

Small-scale home gardening has expanded

At least four PICs have made efforts to encourage urban and peri-urban home gardening and to support existing rural farmers. At the end of March 2020, the Government of Fiji introduced the Home Gardening Programme and provided gardening seed packages to all households in urban and peri-urban areas around Fiji, as well as to corporate employees who lost their jobs. Fiji also initiated a Farm Support Package to boost production of short-term crops by distributing planting materials and open-pollinated seeds to farmers around Fiji at no cost. Similar initiatives to increase local food production were also undertaken in Samoa. These included distribution of fruit, vegetable and other short-cycle crop seeds, as well as planting materials for cassava, sweet potato and taro, to farmers and families, including in town areas. The Government of Tuvalu provided seedlings to support home gardens, and in Vanuatu backyard gardening was promoted through the sale of root and vegetable crop seedlings. Vanuatu also promoted backyard fish farms, providing free tilapia fingerlings and feed to those who built a backyard pond (FAO, 2020c).

Stable domestic food production could accelerate import replacement

Subsistence farming may be a misnomer for the risk-averse, low-input and low-output smallholder farming that is widely practised in the Pacific. Smallholder farming is often practised alongside other livelihood sources or informal employment, and is primarily for own consumption, with limited sales of surplus production or harvesting of cash crops when households are in need of larger cash outlays. Some traditional crops such as taro, sweet potato and kava, as well as tree crops such as coconut and banana, are important commercial crops. Artisanal fisheries have continued to provide much-needed protein, although there have been decreases in incomes for fishers in countries that have essentially lost their tourism sector.

6. In May 2020, the Government of Fiji launched a rice-planting initiative for sugarcane farmers aimed at boosting annual local rice production (currently at 8,000 tons) and reducing rice imports, which average 40,000 tons annually. Interested sugarcane farmers receive 30 kg of rice seeds at no cost to use on 1 acre of land. So far, 166 sugarcane farmers have ventured into rice farming as a complementary or supplementary crop (Naivalurua, 2020).

BOX 1: Important domestic staple food crops

Sweet potato	
Banana	
Cassava	
Taro	
Cocoyam	
Swamp taro	
Giant taro	
Yams	
Coconuts	
Breadfruit	
Island cabbage	

The production of staple foods does not seem to have been impacted by the pandemic – at least not in the short to medium term. If anything, there is likely to be an increase in the supply of root crops such as cassava with the increased planting by households in urban and peri-urban areas for home consumption (PIFON, 2020c). The Solomon Islands agriculture sector has performed well since the second quarter of 2020, reporting a 58 per cent increase in year-to-date copra production and overall sector growth of 2.1 per cent (PSC, 2020). However, some farmers in Tonga reported that local travel restrictions and curfews impeded access to their farms and led to a decrease in production (Underhill et al., 2020).

There are no clear data on the impacts of COVID-19 on production and trade in atoll countries; however, staple crops and non-perishable foods, which constitute the large majority of imports for Pacific atolls, are unlikely to have been significantly impacted.

Domestic staples such as cassava, taro and breadfruit are relatively climate-resilient. Previous reports have predicted that, over time, this comparative advantage will shift in their favour, compared with imported grains of rice and wheat flour (Taylor et al., 2016). The current pandemic could provide an opening to invest in higher agricultural productivity and accelerate export replacement, thereby expanding opportunities for Pacific Island farmers and contributing to improved health and nutrition.

Agricultural labour supply has mostly increased

In most countries, there was an initial increase in agricultural labour supply, as people who lost their jobs in urban areas and the tourism sector returned to their home villages, and workers who could no longer participate in seasonal labour schemes stayed home. In addition to benefiting smallholder production that relies heavily on household labour, some export commodity industries have also benefited from the increased availability of labour. For example, people returning to their villages in Fiji’s main coconut-growing province of Cakaudrove have become involved in cutting copra, an activity that has suffered from a chronic labour shortage for decades (PIFON, 2020c). Nevertheless, a small cohort of farmers in Tonga have reported difficulties in sourcing farm labour during the pandemic (Underhill et al., 2020). Workers who lost their jobs in the tourism industry have turned to fishing and gleaning as a coping strategy.

Agricultural inputs are in high demand, with some shortages

There has been high demand for planting materials, especially in the larger Melanesian islands. Horticultural products tend to require more purchased inputs than export commodities in the form of seedlings, fertilizer etc. In the small micro-states, shortages of seeds, planting material and other agricultural products were already a common barrier to farming prior to the pandemic, and the increased demand stimulated by COVID-19 has added pressure on pre-existing supply constraints (Robins et al., 2020). The Government of the Solomon Islands

and farmer organizations have enhanced seed distribution and access through a stimulus package offered to larger-scale agricultural and fisheries operators, though the programme excludes some of the most vulnerable poorest households (ibid.). A number of Samoan farmers reported having trouble getting seeds and planting materials. And in Tonga, Fiji and Samoa, farmers reported that they had difficulty accessing farm chemicals or that they had become more expensive, and to a lesser extent had some difficulty accessing farm equipment such as tractors and trucks (Underhill et al., 2020).

Pressure on natural resources has increased

The natural resource systems of most PICs are under stress from years of poor management and overexploitation. Prior to the pandemic, food production systems were already under stress from the impacts of climate change, including the increased frequency and impact of natural hazard events, and dealing with pests and disease outbreaks (e.g. coconut rhinoceros beetle, giant African snail, cocoa pod borer). The added complications of COVID-19 have placed further strain on the natural ecosystem.

In the initial phase of the pandemic response, the Government of the Solomon Islands encouraged urban residents to return to their home villages, and around 20 per cent of Honiara's population left the city and returned to the island provinces, with the largest segment moving to Malaita (World Bank, 2020d). According to a report by ACIAR, this migration resulted in 25-50 per cent more fish being caught (Robins et al., 2020). As mentioned earlier, other countries, such as Fiji, also witnessed migration to rural areas, as job losses in the formal sector increased, and unemployed people turned to the informal sector, including agriculture and fisheries, to support their livelihood. In Tuvalu, this migration also increased pressure on inshore fishing resources. A sharp increase in extraction rates may have a medium- to long-term impact on resource sustainability. As customary patterns may differ from area to area, even within countries in the Pacific, an understanding of gender roles and their impact on fisheries management, agriculture, resource use and climate change is crucial to better balance food security and sustainable environmental management (PIFS, 2019).

The PIFON (2020a) case study of Fiji highlights the challenges of increasing land disputes as people return to their home villages and start farming, the use of unsustainable cropping practices by the "new" farmers from town (including clear-cutting of forests and planting on severely sloping land), and significant increases in reports of thefts of root crops, fruit and vegetables, and some small livestock.

Storage, handling and processing

With insufficient crop storage and preservation in many countries, there is limited capacity to reduce post-harvest losses, resulting in financial losses.

In Tuvalu, producers were encouraged to use traditional and customary food stockpiling techniques to dry fish and root crops, preserve breadfruit and store coconuts. Local communities and chiefs were encouraged to organize community-based stockpiling and rationing. In Samoa and Fiji, producers were also discouraged from overharvesting, to reduce post-harvest losses and avoid flooding local food markets (FAO, 2020c).

Nevertheless, some post-harvest losses did occur. In Fiji and Samoa, there was a considerable reduction in the demand for fruits and vegetables supplied to the tourism sector, in some cases resulting in excess supply and wasted crops (PIFON, 2020d). Additionally, significant restrictions on movement, especially in Fiji, hindered food delivery, and many farmers could not reach markets, causing additional produce to go to waste.

In the Solomon Islands, poor storage capacity, together with transport and distribution disruptions, has impacted the fisheries value chain. The local fish trade has declined, affecting many fisherfolk who depend on sales of fish products, as well as consumers who could no longer afford to buy them (FAO, 2020c). High levels of post-harvest losses were also reported by municipal market and roadside vendors in Tonga (Underhill et al., 2020).

In Fiji, reduced exports of fresh produce are having a knock-on effect threatening the survival of the Nature's Way Cooperative – an industry business owned by some 300 farmers and exporters – that operates a high temperature forced air (HTFA) facility. This facility is a critical link in Fiji's fresh produce export value chains, providing required treatment for the export of fruit fly host produce. Prior to the pandemic, the HTFA facility operated daily, including most weekends, but the current low level of throughput is nowhere near sufficient to cover the high fixed costs incurred in the operation (PIFON, 2020a).

Transport and marketing

Market and transport restrictions disrupted local food distribution

Across the region, smallholders have had difficulty selling their produce because of domestic travel restrictions, lower demand from the tourism sector and market restrictions (FAO, 2020a). During the initial lockdown in Fiji, urban areas were closed, and vehicles carrying produce were unable to enter them, directly impacting the marketing of fresh fruits and vegetables in local markets. During this period, inter-island shipping was also terminated. In the Solomon Islands and Samoa, there were market closures. Small-scale fish supply chains in Samoa were disrupted because of mandated closures of fish markets (including roadside stalls) on Sundays, limiting consumer access and reducing the incomes of fish vendors, who can earn up to US\$108 from their Sunday morning sales (FAO, 2020c). In Samoa, semi-commercial and commercial farmers, who account for about 5 per cent of over 27,000 agricultural households, saw a reduction in income during this period, largely driven by disruptions to the value chains and lower demand for products during the state of emergency (PIFON, 2020b).

The initial closure of many formal and informal markets had a negative impact on many vendors, especially women (see 'Impact of the pandemic on household food consumption and nutrition' below). On average in the Pacific, women account for 75-85 per cent of market vendors, and a significant proportion of informal agricultural workers and farmers. In Fiji, the majority of businesses owned by women are in the informal sector. Fijian women farmers and market vendors are not covered by income protection such as paid sick leave or unemployment benefits (COVID-19 Response Gender Working Group, 2020). For the majority of market vendors (77 per cent), selling their produce is their only source of income, and their small amount of savings is not enough to withstand the significant downturn in business activity and reduction in income they are experiencing (UN Women, 2020).

Deteriorating road infrastructure in some PICs poses another marketing constraint for fresh produce, including food staples. Some Fijian farmers reported that poor road conditions prevented them from travelling to town to sell their produce, resulting in crop losses at the farm.

An analysis by WFP (2018) showed uneven patterns of infrastructure quality, ranging from less than 5 per cent paved roads in the Marshall Islands and the Solomon Islands to about 49 per cent paved roads in Fiji. Approximately 67 per cent of PICs' roads remain unpaved – particularly in the northern countries and in the Solomon Islands, Samoa and the Cook Islands. Continued infrastructure investment to extend road networks and improve the quality and reliability of roads is needed in the Pacific. Such investments determine the ability of communities to reach key services such as markets and health facilities (ibid.).

Already insufficient public sector funding for road maintenance and upgrading is likely to be further reduced in the face of the pandemic's unprecedented strain on government finances. This will have negative consequences for the marketing of food staples and other agricultural products.

Households and businesses are innovating responses to market restrictions

Various strategies used by individuals and businesses to adapt to restricted marketing conditions during lockdowns are continuing. One such innovation is the use of the Internet to sell and trade goods. In Fiji, a Facebook group called “Barter for Better Fiji” was started in April 2020 and now has over 180,000 members (Darmadi, 2020). Similar Facebook pages exist for Tonga, Samoa and Vanuatu. The non-cash-based system has allowed households to exchange goods with others to meet their needs. Common trades have included the exchange of baked goods for seedlings, wine for books, and coconuts for root crops and fish (Boyle, 2020). Because of the historical significance of the barter system to many, if not all, Pacific countries, this innovation has the potential to alleviate a significant level of hardship faced by communities. Online technologies have also become important for some farmers who normally sold to the tourism sector. Some Solomon Islands farmers used Facebook to sell herbs that were no longer being bought by local hotels.

There has also been a proliferation of informal roadside stalls selling fruits and vegetables. In some cases, the sellers are farmers who could no longer sell at the farm gate and could not transport their produce to market. This filled a gap for both sellers and consumers who could not access traditional markets, but the roadside stalls lack services, such as water and sanitation, infrastructure (proper stalls and fences), hence their safety and hygienic conditions are very poor.

In Fiji, there has been an upsurge in value-added processing on a cottage-industry scale, with these products also being sold at roadside markets and online.

Farmers and fishers are adapting to the collapsed tourism market with mixed results

Relative to imported crops, vegetables and foodstuffs, a much smaller proportion of food consumed by the tourism sector has been supplied by local farmers. Purchasing officers of hotels negotiated contracts with these farmers, who provided them with certainty that what they produced would be bought at an agreed price. The pandemic has completely destroyed this market.

In Fiji, there has been a sharp fall in the price of some fruit, such as pineapples, of which significant volumes were previously sold to the tourism sector. This market had entirely closed, with all the pineapples redirected to local markets (PIFON, 2020a).

Direct sales to tourists, referred to as “suitcase exports”, were commonly used to market some commodities, including virgin coconut oil, crystallized ginger, and numbers of spices produced in the PICs. Since the cessation of tourism, these sales have been lost.

The demand for top-end livestock products from the tourism sector has also completely collapsed – particularly impacting the Vanuatu beef industry and, to some extent, commercial pig production in Fiji. The demand for eggs is also being significantly impacted (PIFON, 2020c).

Farmers who previously supplied the tourism sector are pivoting towards selling in local markets. For these farmers, adapting to the “new market normal” comes with uncertainty over demand for their produce, the need to adapt to preferences of local consumers, which may be different from the range of crops they supplied to hotels, increased likelihood of wastage, increased costs and uncertainty over income.

Imports were initially delayed and occasionally limited but remain largely available

PICs rely on cargo shipments for food imports, but they have been disrupted due to port closures and congestion, schedule changes, lengthy quarantine procedures and logistical disruptions. The impact of this may be long-lasting (FAO, 2020a). Most recently, COVID-19 protocols and restrictions have been causing a crisis in worldwide shipping by delaying crew changes, stranding hundreds of thousands of seafarers and preventing others from joining ships to begin their contracts (Logistics Cluster/WFP, 2020). One solution being explored by the International Maritime Organization is the use of “hub” ports in Fiji, Australia and New Zealand to receive, quarantine and test seafarers, and potentially vaccinate them against COVID-19.

In the early spring of 2020, delays in the supply and restocking of imported food and other necessities were reported in the Marshall Islands, Fiji and Tuvalu (Koroivulaono et al., 2020; Farbotko et al., 2020; Rawalai, 2020). Restrictions on inter-island travel were lifted on 26 April 2020, but shipment delays continued as sea freight supply chains adjusted to travel and quarantine restrictions in both exporting and importing countries. Due to these delays, Samoa experienced a minor shortage of rice and sugar in mid-May. Some countries experienced limited access to fresh food imported by airfreight (such as fruits, vegetables and dairy products). Despite the minor setback, the resumption of supplies of both commodities was swift, and distribution restored in early June. Most major food imports were available during the state of emergency.

Limited and costly airfreight is causing marketing constraints for horticultural exports, especially for Fiji

The impact of the pandemic with respect to agriculture has been most severe for the export marketing of horticultural products. Fiji, the main horticultural exporter among the PICs, has been the most severely affected. The export of fresh fruit and vegetables has always been entirely dependent on commercial passenger aircraft, which stopped for a period of time in March 2020, and has been hindered during the second COVID-19 wave starting in April 2021. The cessation of flights created a significant decrease in the availability of freight space and a considerable increase in freight rates.

Freight rates to New Zealand, an important market for a range of products, were already high but more than doubled because of the limited space. These rates now far exceed the free-on-board value of the produce being exported, making them uncompetitive.

This threatens the survival of key long-standing and growing export industries for commodities such as papaya, aubergine, breadfruit, chillies, okra and basil. Some commodities with high market prices, such as high-quality vanilla, appear able to absorb large increases in airfreight costs and remain competitive. Producers of non-perishable products such as dried kava are transitioning to sea freight to keep prices at a reasonable level (PIFON, 2020c).

Shipping delays and restrictions have affected the tuna industry

Disruptions in fish supply chains occurred because of transport delays, limited trade and reduced labour. The Pacific tuna industry is essential for providing shelf-stable food (such as canned tuna), and for generating revenue from the licensing of fishing vessels. Due to the strict travel restrictions associated with COVID-19, it is difficult to mobilize the observers required for purse seine fishing vessels, and hard to replace crew or access vessel maintenance operations (FAO, 2020c). Vessels were required to quarantine for 14 days at sea before going into port, and in some cases were prohibited from docking if they originated in or transited through countries with COVID-19 cases (Aqorau, 2020). In May 2020, because of costly delays to vessel operators, who often had to wait over a week for permission to operate without observers, Pacific Island governments suspended the requirement to have observers on purse seine vessels and will allow vessels to transship at sea. These decisions have now been extended until 15 May 2021 (WCPFC, 2020). The lack of observers has created a gap in important measures to reduce illegal, unreported and unregulated fishing.

In the Solomon Islands, where tuna is the second largest revenue earner, workers in the fisheries sector were being laid off, and the company Soltuna began scaling down. FAO (2020e) reports that although the industry there was badly affected at the beginning of the pandemic (March to May 2020), it has improved significantly since then because of “relaxed restrictions on movement, improvement in internal shipping schedules, reduction in the price of fuel and the absence of competition from national and foreign vessels which usually anchor in the Honiara harbour and sell fish to the public”.

Consumer food prices

Prices for staples and imports have fluctuated within the region, and there is no common pattern

Food supplies and prices fluctuated in some countries in the region more than others during the initial period of the lockdown. There have been both increases and decreases in prices, with no common pattern. In some countries, the supply of fresh fruits and vegetables decreased, in others they increased, and in some cases certain imports slowed. So far, there have been no reports of food shortages, but food prices have been affected. Several governments have enacted price controls for certain foods. For example, in Fiji, the government placed controls on foods considered basic necessities. These include rice, vegetable oil, blue peas, split peas, salt, baby milk, canned tuna, sardines, tea, powdered milk, liquid milk, canned beef, canned mutton, margarine and sugar – but not fruits and vegetables, for which prices have increased (FAO, 2020d). A few days after the April 2020 lockdown in Fiji’s capital, Suva, the costs of the most commonly consumed vegetables increased between 11 per cent and 36 per cent, in some cases up to 75 per cent (FAO, 2020a).

The Solomon Islands also made efforts to prevent price increases of staples, but prices rose anyway. According to a recent report from ACIAR, “Informants have observed a doubling in price of commodities outside of Honiara. In Malaita, 48 per cent of respondents noticed higher prices for rice and 46 per cent noticed higher prices for canned tuna” (Robins et al., 2020). The same report indicates that prices in Samoa have remained relatively stable, but prices for coconut and taro are starting to rise, and the Government of Samoa is beginning to explore the idea of instituting food price controls. Prices in Kiribati and Tuvalu were not reported to have varied.

A recent IFAD-funded pilot study conducted by TraSeable Solutions used crowdsourcing to gather prices of 20 common food items – fresh and imported – sold at various retail and wholesale market outlets in Fiji, Samoa and the Solomon Islands in July 2020.⁷ The study concluded that “food is available and prices have generally remained stable. For some commodities, mainly vegetables, prices have decreased and wholesale prices of some commodities have increased. Without comparing the crowd-sourced data with historical market price data for the previous years it is difficult to attribute any price trends solely to the impact of the pandemic. More likely, the anticipated oversupply coupled with the declining demand and consumer purchasing power resulting from the pandemic has led to a greater oversupply and food waste (in the case of Fiji)” (TraSeable, 2020).

Commodity prices in Fiji during lockdown showed notable price decreases for vegetables, including cabbages, tomatoes and aubergines. This is consistent with an expected oversupply of these products and was consistent across all the markets surveyed. In Samoa, prices for tomatoes, Chinese cabbage and cucumbers decreased, while prices for other commodities remained stable or increased only modestly. In the Solomon Islands, there was a variance between the average and maximum prices for most commodities of between 3 per cent and 55 per cent. Banana, Chinese cabbage, aubergine, papaya, pumpkin and tomatoes showed the greatest variation in prices.

In all three countries, supermarket prices for chicken, cooking oil, flour, pork, rice, tinned fish and tuna were monitored. Again, there were no common patterns or obvious trends. In Fiji, pork prices were the most variable, with a significant spike in the last week of July 2020. Cooking oil and chicken prices also fluctuated, and tuna had a spike mid-month. Flour, rice and tinned fish prices remained mostly stable. In Samoa, prices remained roughly the same for chicken and rice, but increased for cooking oil, flour and pork. The greatest price variations were for tinned fish and tuna, which showed a strong spike at the end of the month. In the Solomon Islands, there were fluctuations in prices for pork, and overall decreases for cooking oil and chicken.

Across all the markets surveyed in all three countries – Fiji, Samoa and the Solomon Islands – the stories from market vendors were the same: there are fewer people visiting markets, and they are spending less than before, sales are slower, wholesale prices of some commodities have increased, and some locations have fewer vendors selling produce. Overall, market sellers are reporting smaller profits since the start of the pandemic.

7. The rapid assessment used crowdsourcing techniques to gather data from 21 locations in July 2020. In Fiji, the crowdsourced data were compared to average price data for January to May 2020; and in Samoa, to average prices for October 2019 to May 2020. There were no comparison data available for the Solomon Islands.

Prices of some imported food have increased slightly, particularly in urban areas. Overall, international prices of rice and wheat have not risen enough to cause alarm. However, based on global commodity price trends, imported food staples are likely to continue to rise, and may begin to be less affordable than local produce. The impact this has on local diets and food security will depend on a combination of factors, including household access to own-produced foods (which differs between urban and rural areas), food taste and preferences, as well as a country's ability to export. There is some concern that "as economies slow and currencies likely depreciate, food-import dependent countries in particular will struggle to find financial resources to import food" (ADB, 2020a).

Impact of the pandemic on household food consumption and nutrition

Malnutrition in all its forms presents challenges to COVID-19 resilience and responses. Undernutrition (including wasting) is likely to limit the effectiveness of the immune system's ability to fight off and recover from infections. Overnutrition and the coexistence of other NCDs, especially overweight and obesity, are likely to increase the severity of COVID-19 infections and affect the likelihood of survival (Kass et al., 2020). Interventions that aim to improve nutrition are clearly a win-win. Without early action, the profound impact of the COVID-19 pandemic on early childhood nutrition could have intergenerational consequences for child growth and development, educational attainment and chronic disease risks, with devastating long-term impacts on national economies. The pandemic is likely to have different food and nutrition security impacts across the Pacific, depending on the aetiology of the region's economy, agriculture and COVID-19 outbreak risk.

Initial concerns about the stability of national food stocks did not translate into acute food shortages, but lockdowns and movement restrictions did result in some short-term food and nutrition security impacts (already described above). Longer-term economic impacts related to lost or reduced livelihoods have translated into diminished household income and purchasing power, with implications for consumption and nutrition rather than immediate changes in food environments.

First, the range of products normally consumed that make up the dietary energy of the household may narrow, and some household members (especially women) may even skip one or more meals. There is concern that this could worsen food insecurity and malnutrition, given the already limited dietary diversity in the region. Second, some households may opt for cheaper, lower-quality substitutes (that also last longer and are easier to store) to provide their dietary energy needs. The constrained environment may expose households to lower-quality and less nutritious substitutes, favouring processed foods over healthy fresh fruits and vegetables, which may aggravate existing health conditions.

Preliminary findings suggest that reduced incomes have influenced food choices

Reduced incomes and purchasing power, along with the aforementioned impacts along the supply chain, have, to varying degrees, affected access, availability and quality of both locally produced and imported food. The impact of COVID-19 on the economy and, in particular, employment has added pressure on households' ability to afford nutritious diets.

As evidenced in WFP's mVAM in Tonga and Fiji, since the start of the pandemic, a large proportion of households (reported at 49 per cent in Tonga and 55 per cent in Fiji in September 2020) have reported a reduction of income or no income at all, with a higher proportion in urban areas. Household dietary diversity has been negatively impacted as a result of the economic loss. Affordability is further compounded by increases in food prices. In the mVAM surveys, increased food prices were ranked as the main concern by households in Fiji (52 per cent, December 2020) and Tonga (34 per cent, November 2020), while in Samoa (8 per cent, December 2020), increased food prices were second to concern about getting sick (18 per cent, December 2020).

Uncertainty around future employment and income may result in some of these households reducing their spending, to save money as a precaution. This may translate into less food being purchased and increased food insecurity, especially for low-income groups. Overall, there is a risk that the quality of diets will deteriorate even further, resulting in poorer micronutrient intake and increasing malnutrition, compounding the existing cases of NCDs and, ultimately, worsening food security. Currently, available data to determine whether these concerns have been borne out are sporadic, with inconsistent regional coverage. Data sources range from qualitative, structured interviews with farmers and agribusinesses, to more quantitative and verifiable surveys. More robust monitoring of food consumption-related data, including price monitoring,⁸ is required to better understand the ongoing trends in food consumption and how they relate to nutrition in the Pacific.

Qualitative data from a case study in Samoa revealed that the demand for canned mackerel and instant noodles, both of which are very high in sodium, increased significantly during the state of emergency (PIFON, 2020b). More research is needed to understand whether this is happening in other PICs,⁹ and whether these are short-term coping strategies aimed at increasing the supply of affordable shelf-stable foods, rather than more permanent shifts in consumer behaviour which would, indeed, have a negative health impact.

Although no recent pre-COVID-19 baseline exists to compare how the pandemic has impacted acute malnutrition, UNICEF's assessments of acute malnutrition (wasting) in Kiribati and Vanuatu since the beginning of the pandemic provide an insight into the prevalence of wasting within the COVID-19 context. In Kiribati, 85 out of a total of 10,884 children were identified with moderate to severe acute malnutrition. This is less than 1 per cent prevalence of acute malnutrition among the children screened. In Vanuatu, 231 out of a total of 5,535 children were identified with acute malnutrition – slightly more than 4 per cent. Despite ongoing efforts to carry out assessments for acute malnutrition, limited baseline information makes it difficult to determine the immediate impact of COVID-19 on acute child malnutrition.

The World Bank has conducted several rounds of its high-frequency phone survey on COVID-19 in the Solomon Islands. The first phone survey conducted in June 2020 found that food insecurity was widespread: more than 70 per cent of households reported experiencing food insecurity, with nearly 60 per cent of households reducing food consumption despite

8. Currently, there are very limited data available on local market prices for the Pacific. None of the key United Nations global food price monitoring databases such as the Market Monitor (WFP) or the Food Price Monitoring Analysis (FPMA) have current data for the Pacific Island States, with the exception of Samoa in the FPMA. Global annual flagship publications on food prices, such as the Global Report on Food Prices, also omit the Pacific region. WFP is currently reviewing options to expand mVAM to include market monitoring.

9. A recent World Bank survey carried out in Papua New Guinea found that the consumption of store-bought processed foods had not actually increased since the pandemic (World Bank, 2020c). While Papua New Guinea is not included in this report, the findings of this study are relevant for similar contexts (e.g. potentially in the Solomon Islands and Vanuatu), and should be considered.

minimal disruption to food supply chains at the time. Severe food security coping strategies were evident, with 60 per cent of households reporting running out of food, and nearly 50 per cent having at least one household member who did not eat for an entire day. The main reason for food insecurity was financial constraint.

Food insecurity and poor nutrition vulnerabilities intensified among the urban and peri-urban poor, informal workers and women

Data from WFP, FAO, WB, UNICEF and the University of the South Pacific (USP) are beginning to reveal more details about the groups most vulnerable to COVID-19-related food and nutrition insecurity. However, it is important to note that many of the PICs do not currently have regular food security and nutrition monitoring plans in place, making it difficult to arrive at evidence-based conclusions on the impact on nutrition across the region.

Urban and rural households have faced differentiated vulnerabilities. An FAO (2020d) report observed that urban households, which rely almost entirely on markets for their food, are more vulnerable to spikes in food prices than are rural dwellers. Rural households, on the other hand, have more limited access to foods in shops in case of transportation irregularities, since they often rely on a combination of both market systems and subsistence and local production. A study by the USP in July 2020 surveyed the situation of poor people living in urban and peri-urban areas in Fiji and the Solomon Islands, finding that they were mainly buying foods to meet very basic needs, resulting in even less frequent purchases of relatively expensive fruits and vegetables. Furthermore, peri-urban households in both countries experienced more food insecurity than rural households (USP 2020a; 2020b). In the short term, when food systems experienced breakdowns due to mobility restrictions, self-subsistence production systems were able to make up for the temporary lack of food availability in markets. However, home production systems are limited by a lack of land (PIFON, 2020c), and constrained by poor soil quality, salinity and the prevalence of starchy vegetable production (including taro, sweet potato and cassava). Longer-term strategies are required to ensure access to diversified fresh fruits and vegetables.

WFP's mVAM household-level data have shown the impact of COVID-19 on food security, disaggregated between rural and urban households. While the impact has been greater on rural areas, urban households have not been spared. In Tonga, for example, in November 2020, mVAM reported that 24 per cent of households nationwide had insufficient food consumption (29 per cent in rural areas and 14 per cent in urban areas). Macro- and micronutrient intake was also limited in Tonga in both rural and urban areas, with up to 37 per cent of households in rural areas having limited intake of heme iron (and 8 per cent never consuming it), and 32 per cent having limited vitamin A intake in the same month. In urban areas, 24 per cent of households had limited intake of iron, and 16 per cent had limited intake of vitamin A. In addition to food consumption, the impact of COVID-19 has also been evidenced in the way households had to resort to negative livelihood coping strategies (stress, emergency and crisis) to meet essential needs, including the ability to purchase food. In Fiji, 60 per cent of households reported stress coping strategies (such as borrowing money or spending savings), with 20 per cent reporting crisis/emergency coping strategies (including selling productive assets) in December 2020.

Both urban and rural households increased their adoption of negative coping strategies between September and December 2020 in Fiji, though urban households had higher levels of adoption of crisis strategies in October (20 per cent), and the rate of increase in emergency strategies was higher in urban areas. Emergency strategies will have long-term impacts on households' ability to generate an income and sustain livelihoods.

Disaggregated mVAM data also show differences in food security, nutrition and livelihood coping strategies for women-headed households, households with children under 5 and those containing people with disabilities. Each of these groups requires special attention in terms of policy and programme interventions related to social protection, nutrition and livelihoods to meet SDG 2 (zero hunger) and ensure no one is left behind. This also highlights the importance of disaggregated data in understanding who is being left behind.

A growing informal economic sector

The Pacific region relies heavily on the informal economy (up to 50 per cent of regional GDP), with many informal workers engaged in the hospitality, tourism and agriculture sectors. According to some estimates, the informal sector accounts for around 60-85 per cent of employment in Melanesian and Micronesian countries, and 40-60 per cent in Polynesian countries, where it is increasing (UN Pacific, 2020a). The Socio-Economic Impact Assessment of COVID-19 in Fiji has found that across the region, the informal sector has suffered most from the negative repercussions of the global pandemic (ibid.).

Pacific women, who make up a large percentage of casual workers in the tourism industry and a significant proportion of informal agricultural workers and farmers (ibid.), are facing a convergence of disproportionate impacts on their livelihoods, food security, nutrition, health and safety. This is due, in large part, to the exacerbation of existing forms of discrimination, inequality and difficulty accessing public health and information services (Pacific Women, 2021), as well as a lack of access to finance, with the exception of payday lenders and other exploitative sources of informal finance, which increase their vulnerability (ADB, 2018).

Lockdowns have made it especially difficult for women to engage in informal economic activities, particularly participation in marketing and sales, as well as community-level craft production. There is concern that the pandemic could undo some of the gains made in women's empowerment, including equitable participation in the labour market, and further exacerbate disparities, especially in the informal sector (UN Pacific, 2020a). A World Bank survey carried out in June 2020 found that the net COVID-19-related employment loss of 7-11 per cent was more likely to impact women than men in the Solomon Islands, and that women in the upper quintiles of the wealth distribution were also more likely to have left work (World Bank, 2020d).

Women's nutrition and food security are also at risk, since women often prioritize feeding their children or dependent relatives over themselves, frequently eating last and least. During the pandemic, women's share of unpaid domestic work has increased, as they provide care for elderly relatives and out-of-school children, they have been less able to access essential health services, and there is considerable concern about a reported increase in gender-based violence as a result of enforced quarantines (Pacific Women, 2021).

Despite the negative impacts of the pandemic on the informal sector, coupled with historically inadequate and unequal access to decent employment and social protection, workers and owners of microenterprises affected by COVID-19 job loss are transiting to the

informal sector for business and employment opportunities. Microenterprises in agriculture, fisheries, handicrafts, sewing, shopkeeping and in product development, food preservation and other value-adding activities offer an important livelihood diversification and coping strategy for households facing the economic consequences of COVID-19 (ILO, 2020a). As more people – particularly youth – enter the informal economy, the net result is more competition for smaller shares of the market.

Current monitoring efforts are providing important indications of the food security and nutrition situation

While still in their early stages, data collection efforts undertaken by UNICEF, WFP, the World Bank, the USP and others are critical to supporting national-level and disaggregated monitoring and analysis and to facilitate data-driven and evidence-based decision-making on food security and nutrition across the region. National and regional food security and nutrition plans are strongly recommended, including addressing data gaps, regular data collection and analysis, and ensuring evidence-based policy and programme responses across government and other stakeholders.

WFP: Food Consumption Score and Livelihood-based Coping Strategies

The progressive roll-out of WFP's mVAM across the Pacific is providing access to near real-time data on the impact of COVID-19 and other shocks on food security, nutrition and livelihoods across the region. It is currently operational in Fiji, Samoa, Tonga, Vanuatu and Kiribati (WFP, 2020b). The monthly phone surveys gather high-frequency data to track the food security, nutrition and livelihood situation in real time, and include key questions on the impact of COVID-19.

One key measure is the Food Consumption Score, a proxy indicator of household caloric availability that takes into account the diversity and frequency of food groups consumed over the past several days and their relative nutritional value. Another measure, Livelihood-based Coping Strategies, identifies negative coping strategies adopted by households to meet essential needs, such as borrowing money, spending savings or selling productive assets. The use of these strategies to address food security over the short term reduces households' resources and their ability to meet their basic and essential needs. mVAM disaggregates impacts by household level, including location (rural or urban), those headed by women, and those with people with disabilities or children under 5. To date, the data have revealed the disproportionate impacts on these households, indicating the need for nutrition-sensitive social protection and related policy measures.

As of May 2021, Fiji, the first of the islands to conduct the survey, has completed five rounds, Tonga has completed three rounds, and Samoa, Kiribati and Vanuatu (data forthcoming) have each completed one round. The surveys randomly select mobile phone numbers and, therefore, may introduce some level of bias towards respondents who are more likely to own phones (skewed away from poorer or younger people etc.) and have them switched on (skewed away from rural or poorer communities with limited access to electricity). However, adjustments can be made to statistically correct bias through various techniques, including defining pre-targeting processes using subscriber database filters, integrating additional weights, including socio-economic and poverty markers and exploring propensity score matching.

mVAM surveys regularly collect a set of food security and livelihood vulnerability indicators at household level to help monitor trends over time and present disaggregated results where possible, including urban/rural, households with children under 5 and those containing people with disabilities. They include a proven set of food security indicators used in a humanitarian context, but also integrate indicators on dietary diversity and macro/micronutrient intake, livelihood strategies, multidimensional deprivation (household deprivation of essential needs alongside non-economic dimensions such as food, living conditions, education, health and sanitation) and income. They also allows us to compile qualitative information and verbatim statements from households that further describe their food security status and the challenges they face to meet their food and essential needs in the face of a shock.

In addition, combined with food prices and other indicators, the mVAM household data could further help compute important analysis – for example, the proportion of the population that can afford a nutritious diet. This would, however, require the integration of various datasets, for which more data-sharing and partner collaboration would be necessary.

UNICEF: Assessing acute malnutrition

UNICEF will continue to provide financial and technical support to ministries of health in Fiji, Kiribati, Samoa, the Solomon Islands and Vanuatu to integrate the assessment of acute malnutrition (wasting) among children aged 6-59 months within the routine vitamin A supplementation already provided every six months to all children in that age group. Among the PICs, acute malnutrition is the highest in the Solomon Islands, where support will be provided in mid-2021. UNICEF will assist the Solomon Islands Ministry of Health to expand treatment services of severe acute malnutrition to children in Isabel, Guadalcanal, Central, Choiseul, Western and Malaita provinces. Training on how to screen children with severe acute malnutrition will be provided to 504 health workers in 125 health clinics. In addition, more than 300,000 people, including nearly 150,000 female caregivers, will receive targeted infant and young child feeding messages delivered via media (paper, digital and social) and social engagement activities. In Samoa, community health workers will be trained to screen children for acute malnutrition, and the health workers at the two referral hospitals will receive specialized training on in-patient management of severe acute malnutrition among children.



COUNTRY RESPONSES TO THE PANDEMIC

©IFAD/Susan Beccio

To reduce and mitigate the impacts of COVID-19 on their economies, the governments of many PICs have approved millions of dollars for economic stimulus packages. The stimulus packages are sourced from current government budgets, government bonds, overseas concessional loans and direct budget support from donors and development partners, including the World Bank and the Asian Development Bank. Recently established COVID-19 task forces, emergency response agencies, cluster partners and relevant ministries are implementing stimulus packages for the short, medium and long term. Moreover, the Pacific Humanitarian Team's COVID-19 Humanitarian Response Plan outlined the support and funding required by humanitarian partners to address the impacts of COVID-19 in 2020.

Most stimulus packages address multiple priority areas such as the health response, social protection and safety net programmes, enabling the private sector, securing citizen purchasing power, improving food security, multisectoral responses, tax holidays and loan holidays. Regular updates of responses in the Pacific are being consolidated by the Australian National University.¹⁰

10. See <https://pacificsecurity.net/>.

This section describes a number of specific measures that governments have implemented with the aim of reducing the impacts of the pandemic on local food systems and ensuring access to safe and nutritious food. This is not intended as an accurate inventory of all government responses; rather, it describes the types of responses and enables consideration of what additional support could be provided in light of this report's recommendations. This section relies heavily on recently published FAO reports summarizing the effects of COVID-19 on national and regional food systems (FAO 2020c; 2020d; 2020e).

Measures to ensure local food production and availability and increase access to adequate, nutritious food have been prevalent throughout the crisis:

- Promoting and scaling up home gardening has been a response activity in Fiji, Samoa, the Solomon Islands, Tuvalu and Vanuatu. The purpose of these initiatives has been to provide access to nutritionally rich foods; increase purchasing power from savings on food bills; provide fall-back food provision to counteract a potential decrease in production and trade; and continuity of food supply now and in the future. Initiatives have included the distribution of seed packages, planting material, training and support for home-based cultivation, dissemination of nutrition education messages throughout the current crisis concerning the importance of healthy eating, breastfeeding and growing one's own food.
- In the Solomon Islands, Vanuatu and Fiji, governments distributed local and dry food rations and/or established organized food banks to improve food access during lockdowns and support households that lost their income. As noted earlier, several tropical cyclones that occurred during the COVID-19 crisis exacerbated impacts, and some governments merged their emergency responses to respond to both simultaneously, including with food relief.
- Support for household poultry raising was boosted in Fiji, and backyard fish farming was promoted in Vanuatu.
- Fiji and Samoa both offered some form of farm support packages aimed at boosting local production in the short term to support food security and farmers' livelihoods. These have typically included the provision of free seeds, planting materials, and support for the livestock industry. The Solomon Islands supported a pilot commercial farm model under which the Sape Farmers Group was contracted to provide cassava, sweet potatoes and vegetables which could guarantee food supply to Honiara in case of a pandemic-related food shortage.
- Tonga allocated funds to ministries managing agriculture and fisheries, to increase local food production by farmers and fishers. Additional stimulus funds targeted strengthening food stocks.

Measures to ensure supply and marketing of fresh food to mitigate disruptions caused by lockdowns:

- Fiji bought produce directly from farmers and sold it at cost to middlemen or vendors located within the lockdown areas, or directly to households at affordable prices.
- To ease marketing obstacles, Fiji established mini-markets in various locations, particularly around urban centres, to provide ease of access for consumers and avoid overcrowding in municipal markets. Vanuatu promoted mobile marketing by selling food from trucks, and the Solomon Islands began the rehabilitation of a major urban market and established some satellite food markets.
- Fiji and Vanuatu imposed price control mechanisms on basic food necessities.
- Nauru's response included ensuring continued air services by national airlines and a ship charter to improve sea freight links.

Measures to improve post-harvest storage and handling:

- The Government of Tuvalu encouraged the practice of customary food stockpiling techniques, including drying fish and root crops, preserving breadfruit and storing coconuts. Local communities and chiefs were encouraged to organize community-based stockpiling and rationing.
- In Samoa and Fiji, the governments urged farmers not to overharvest, to reduce post-harvest losses and avoid flooding local food markets.

Measures to strengthen import substitutions:

- Samoa purchased equipment and consumables used to produce and commercialize local value-added agriculture products such as breadfruit flour, coconut oil, avocado margarine and others.
- Fiji, Tonga, Tuvalu, the Solomon Islands and Vanuatu encouraged import substitution with local staple foods by distributing seedlings and planting material. In Fiji, this included a rice production programme that supports import substitution at the household level.

Measures to reduce or defer import tariffs:

- Tonga and Samoa deferred import duties on agriculture and fisheries equipment, inputs and, in some cases, goods needed to help revive the tourism sector. Additionally, Samoa approved a duty concession on specific foods identified as essential by the Ministry of Finance.

Measures to cancel and defer taxes and loan payments:

- Fiji instituted loan repayment holidays, bank fee waivers and interest-only loan payments. Vanuatu suspended road and rent taxes and business licence fees and charges. The Solomon Islands approved a five-year tax holiday for tourism operators.

Measures to facilitate access to finance and stimulate economies:

- The Solomon Islands economic stimulus package included credit for value-added/ production of targeted commodities, and freight subsidies for exports of copra and cocoa. It also targeted investments towards forestry, fisheries, construction and manufacturing, tourism, wholesale and retail trade, and transport (aviation, maritime, road) businesses.
- Fiji provided credit to exporters, large-scale commercial agriculture, and public transportation and renewable energy businesses at concessional rates, as well as credit guarantee schemes for entrepreneurs in the agriculture, fisheries and forestry sectors. Tonga's stimulus package targeted businesses in agriculture, fisheries, forestry, construction and manufacturing, tourism, wholesale and retail trade, and transport (aviation, maritime, roads).
- The Solomon Islands and Fiji offered concessional loan packages for micro, small and medium-sized enterprises, and commerce and industry.
- Tonga provided financing for income-generating activities for women's groups and non-governmental organizations, activities related to food preservation supplements and food security.
- The Cook Islands introduced grants to support investment in innovative solutions and equipment to improve yields, efficiency and profitability in the commercial agriculture sector.
- Tuvalu's economic and financial relief package included grants for the development of canteen businesses in the outer islands and agricultural food security businesses.



OPPORTUNITIES TO STRENGTHEN AND REALIGN DOMESTIC FOOD SYSTEMS

©Aleta Moriarty/World

COVID-19 has emphasized the importance of Pacific agriculture for both food security and economic development, as well as the crucial role of domestic food systems in providing resilience to shocks, self-sufficiency and insurance against food and nutrition insecurity. The underlying food and nutrition challenges affecting many Pacific Island populations have been exacerbated by the cumulative impacts of the pandemic and cyclical disaster risks. The need to innovate and adapt domestic and regional agrifood systems is increasingly acknowledged as a core recovery strategy for Pacific Island governments.

Despite being a priority for Pacific Island governments, the agriculture sector has been in decline in many PICs due to factors such as inefficiency, a general lack of investment from the private and public sectors, loss of productive labour to urban centres, and the emergence of other industries. Increased investment in this sector, including climate adaptation, is crucial for post-COVID-19 recovery.

Strengthening and realigning domestic food systems will require a combination of short-, medium- and long-term strategies and investments to address the most immediate needs and tackle the structural challenges creating the current level of food and nutrition insecurity.

This section describes opportunities for governments and partners to work together to strengthen the resilience of domestic and regional food systems for long-term sustainability, achieve SDG 2 (zero hunger) and ensure no one is left behind. These opportunities, while specifically responding to the challenges and impacts of COVID-19, are in alignment with long-term efforts to transform food systems and contribute to the key shifts and systemic changes outlined in the 2021 Food System Summit Action Tracks.¹¹

Boost local food production and consumption to ensure food and nutrition security

Response measures must ensure access to and availability of safe, affordable and nutritious foods and promote consumption of local foods

Where COVID-19 food assistance programmes are being implemented, they should expand their use of locally grown foods. For example, food packages distributed to unemployed families have typically consisted of imported rice, imported flour, local sugar, instant noodles and imported tinned items (PIFON, 2020a). Arrangements with municipal markets and fresh produce traders are the most obvious starting point for establishing supply arrangements. Partnerships with farmer groups may be another potential way to coordinate supplies of fresh produce for food assistance programmes. The promotion of the use of locally grown foods in government school feeding policies and programmes should also be expanded, especially since initiatives to improve the overall school food environment are being considered within the region (FAO, 2019b).

While no foods or dietary supplements can prevent COVID-19 infection, a healthy diet supports a strong immune system. Ensuring a regulatory food environment that emphasizes consumption of healthy foods, rather than processed and convenience foods, is essential. This needs to be combined with increasing consumer awareness, providing consumers with reliable and easily accessible information on selecting/purchasing the right combinations of foods for a healthy diet, preparation suggestions and cooking demonstrations.

For open markets, roadside stands and informal markets, inexpensive “soft” solutions that rely on market vendors and consumers to ensure implementation and observance of biosecurity, food safety and hygiene protocols can be developed. These measures can help keep markets clean, functional and operational even during a pandemic. They are important as affordable sources of food security for consumers and livelihoods for vendors and others in the supply chain.

In the medium to long term, prompt policy and fiscal measures are needed to ensure food supply chains are kept alive, domestically and internationally, with food able to move across borders and between islands and with new suppliers sourced (in cases where countries have stopped exporting), in compliance with existing food safety standards.

Prevention of all forms of malnutrition

All children, adolescents and women in the Pacific must realize their right to nutrition. One of the priorities is to protect and promote diets, services and practices that support optimal nutrition, growth and development for all children, adolescents and women. A systems approach to nutrition is necessary to ensure that five key systems – food, health, water and sanitation,

11. See <https://www.un.org/en/food-systems-summit/action-tracks>.

education and social protection – are able to provide the required foods, services and practices that support adequate maternal and child nutrition, making these systems more accountable for sustainable nutrition results.

UNICEF and the three Rome-based United Nations agencies are committed to supporting nutrition programmes that focus on prevention of all forms of malnutrition – stunting, wasting and micronutrient deficiencies – across the life cycle, while increasingly responding to the challenge of childhood overweight and obesity. The United Nations continues to highlight the centrality of nutritious, safe, affordable and sustainable diets with adequate nutrition services and practices as the foundation for good nutrition, particularly for children, adolescents and women in the Pacific. To respond to child mortality risks where prevention of malnutrition is unsuccessful, UNICEF also extends support in the treatment of cases of acute malnutrition.

Target and empower vulnerable populations to achieve SDG 2 and ensure no one is left behind

Design and strengthen nutrition-sensitive social protection to reach the most vulnerable

The immediate focus should be on targeting and addressing the needs of the most vulnerable populations, including by expanding social protection coverage and providing tailored skills training to enable transitions to sustainable livelihoods (on-farm and off-farm).

Over the medium term, increased attention is needed to nutrition-sensitive social protection programmes that improve access to food, nutrition and essential services. This is particularly important for women of reproductive age, pregnant and lactating women, and young children, across urban and rural settings.

Overall, income losses due to the pandemic are increasing the vulnerability of segments of Pacific Island populations to a substantial decline in dietary quality. Linking programmes on social protection, nutrition, health care and food systems, to better respond to nutritional needs, is now more important and urgent than ever before.

In the medium term, there is a need to identify and document what types of targeted assistance have had the greatest impact throughout the region and assess the scope for strengthening and scaling up social protection programmes, including improved data and analysis on the most vulnerable populations.

Empower women and girls by creating opportunities for economic participation and tackling harmful social norms

Any policy or programmatic response to the COVID-19 crisis first needs to understand the increased risk of gender-based violence (GBV), including intimate partner and domestic violence, as a result of the current crisis. According to UN Women (2019), up to 68 per cent of women in the Pacific have experienced violence at the hands of their intimate partner. The Fiji Women's Crisis Centre recorded an increase in calls to its national domestic violence helpline when the cities of Suva and Lautoka were under lockdown in April 2020 (RNZ, 2020), and there was renewed concern for 2021 lockdowns. A collaborative effort is needed from all stakeholders, including Pacific Island governments and their law enforcement agencies, to ensure adequate funding for GBV response services, including shelters, and to work with men and boys to address harmful social norms and support a more protective environment for women, girls, boys and others at risk.

Women face greater constraints than men in accessing productive resources such as land, services, technologies, markets, credits and local institutions. The pandemic is disproportionately affecting women's productive, reproductive and income-generating capacities, because it tends to reduce their economic opportunities and access to nutritious foods, while at the same time increasing their workload and risk of GBV. Policy and programme responses need to consider women's roles in agrifood systems and ensure that their multiple needs as guardians of household food security, food producers, farm managers, processors, traders, wage workers and entrepreneurs are adequately addressed (FAO, 2020b).

In the medium term, Pacific Island governments can introduce gender equity measures in public procurement to encourage women-led businesses in the formal and informal sector to bid on government tenders, or provide assistance to women-owned enterprises, such as by setting mandatory procurement targets and subcontracting goals in supply chains.

In the long term, more decisive interventions are needed by Pacific Island governments to address the structural barriers that hinder women's economic participation and empowerment, which is crucial for recovery from the crisis and for building more inclusive societies. This includes addressing gender discrimination in legal provisions and customary discriminatory practices regarding land tenure and decision-making.

Invest in digital, agricultural and climate-adaptation innovations

Invest in digital innovation, smart farming and enhanced digital literacy and services for farmers

The current situation offers opportunities for Pacific Island governments to adopt digital platforms, to improve access to agricultural market information (such as prices and availability), enhance digitization of value chain actors (enabling, for example, e-payments, contactless distribution and community-based marketing) and strengthen island and inter-island communication networks. FAO (2020g) suggests that "robust market connectivity will require soft investments (in digital market platforms and digital literacy) or hard investments (in storage logistics, cold chains). Investments in digital platforms and blockchain systems enable better food traceability, and open up new market opportunities, including through trade."

Support the emergence and development of innovative, promising value chains

Re-orienting and developing new, more flexible, shorter and diversified value chains for domestic purposes is an essential objective. The emphasis on domestic markets for established chains will, in some cases, be a temporary fix, while in other cases new and more durable partnerships will be developed. The costs and benefits of new ventures, including their value addition to the food chain, impact on employment, and ability to attract women and young people, should be evaluated. Future investments should focus on developing value chains that can better cope with future pandemics and other economic, environmental and climate shocks.

The upsurge in value-added processing, which has largely been on the cottage-industry scale, has the potential to be scaled up to include a wide range of locally grown food and fishery products. Potential benefits of increased investment in this emerging industry include:

- Employment opportunities, especially for women and youth
- Reduction in the current high levels of wastage of fresh fruits and vegetables
- Potential health and nutrition benefits from consuming processed food made from locally grown food products
- Significant potential to develop alternatives to imports and build linkages within local economies.

Agribusiness advisory services in the form of incubators and accelerators are critical support mechanisms to ensure the transition to microbusiness is sustained and scaled up. This transition will also require financing, technical assistance and appropriate training for micro, small and medium-sized agribusinesses. Emerging food entrepreneurs (transitioning from other industries) are especially in need of guidance, technical assistance and coaching on aspects such as product quality, processing efficiency, packaging, food safety, sanitation and regulatory compliance. The production and distribution of hands-on training programmes, materials and access to industry specialists would be essential to support these emerging value chains.

A considerable opportunity exists for large-scale expansion of value-added processing of breadfruit products – particularly breadfruit flour, which offers potential for significant import substitution (McGregor, 2018). Dalo and cassava, which are also converted into flours, should also be considered.

Strengthen and support sustainable, climate-smart farming and fishing

As pressure increases on natural resources as a result of increased farming and fishing, key environmental challenges facing PICs, vulnerability to climate change and preparedness for climate-related disasters are more relevant now than ever before. Urgent attention should be paid to promoting climate-resilient agricultural technologies such as hurricane-resistant shade houses, climate-resilient seeds/seedlings and other modern technologies to sustain local production. Prevention of deforestation, soil erosion, and pollution caused by agrochemicals is needed to ensure continued food security during crisis events. Safety-at-sea training should be offered to small-scale fishers, including seamanship, preparation and using improved, safer and more stable vessel designs, engine maintenance and repairs, and the management of fisheries. Supporting farmers and fishers and new production systems is critical for recovery and should be complemented with adequate training on sustainable and climate-smart farming practices, fisheries management and equipment use in line with regulations. Governments, in collaboration with non-governmental organizations, farmer organizations and other partners, can support existing rural training centres, develop new and professionalize existing training materials, and support farmer-to-farmer training programmes that will help smallholders sustainably increase productivity and enhance profitability during recovery.

Prior to COVID-19, government-run research and extension services were underfunded and limited. As the pandemic response and recovery continues to strain government resources, it is worth considering alternative, gender-sensitive approaches to traditional extension services, based on successful examples in the region. Farmer organizations, in partnership with the private sector, have taken on increasingly important roles in filling the widening information gap, often collaborating with and complementing government services. Public funds, including donor funds, could be channelled to farmer organizations and the private sector to undertake targeted and appropriate industry-led research and extension.

Improve food system resilience to shocks and crises

Make small-scale agriculture and sustainable fisheries more productive and remunerative

Local production support targeting domestic markets will contribute to nurturing resilient food systems, and will require the adoption of inclusive value chains and strengthening of community engagement mechanisms.

Immediate actions should boost agricultural production now and for the coming planting season. These require facilitating access of smallholders, fishers and small and medium-sized enterprises to financial services to overcome cash flow crises, and distributing inputs for primary agricultural production to ensure food availability in the poorest areas. Local crop seeds and planting material are key agricultural resources needed to ensure sustained production and resilience; the development of local seed banks and promotion of conservation of cyclone-resistant, drought-tolerant local seeds will support sustainable recovery.

In the medium to long term, sustained investment in agriculture has the potential to bring un- and underused agricultural land into production and strengthen self-sufficiency. An increase in semi-commercial and commercial farming is also needed to scale up production, strengthen rural employment and promote import substitution (FAO, 2020d). Contract farming initiatives that guarantee income for small-scale farmers should also be promoted.

As agricultural activity intensifies and demand for land increases, governments will need to more efficiently manage current constraints such as administration of land tenure and effective monitoring of land management practices and land use. Where possible, releasing lands under customary tenure laws¹² would free up additional land for food production. Improving women's access to land (including to land titles), credit and economic opportunities must also be key components of plans to increase agricultural production.

Consider actions to bolster intraregional agricultural investment and trade to strengthen the regional economy

While challenging, the prospect of increased, robust intraregional investment and trade could be a vital strategy for post-COVID-19 recovery. There are clear health and potential economic benefits of increasing consumption of locally produced fresh foods, and the potential to substitute local staples for imports, decreasing reliance on global food chains. Achieving a balance between imports and local production, at least for a few important food commodities, would provide countries with reliable alternatives, especially when crises are long-lasting.

A regional agricultural strategy on production and trade, including smaller strategies for the individual countries, could be formulated to ensure that local needs are met, and exports (where applicable) are strengthened.

This key policy and investment area offers significant benefits but faces substantial obstacles. It would require increased market reliability of value chains and more sophisticated local industries, better-integrated and inclusive value chains, and investments in processing and storage facilities (Farrell et al., 2020). Long-term investments to strengthen national, regional and international export markets are needed in infrastructure and institutions to help farmers and fishers comply with international food safety standards/biosecurity protocols, and to improve traceability, production efficiency and market access for high-value food products.

12. Especially in the Solomon Islands, where about 80 per cent of land is under customary land tenure systems.

A thorough review of fiscal measures that hamper regional trade, such as import restrictions on raw materials and agricultural equipment, machinery and inputs, taxes and tariffs, as well as those that could stimulate trade, such as tax exemptions, should be analysed.

Additional analysis on the impact of recent regional agricultural investments on PIC food systems and livelihoods, as well as the extent to which resilience and climate-sensitive agriculture have improved throughout the region, would be needed to identify viable and effective approaches in the region. This will be crucial, especially as more resources are invested in this sector.

Ensure that regional networks and hubs are effective and fit for purpose

Global networks have proven resilient in the face of the pandemic. Food and trade, while slowed, have continued to flow. Nevertheless, regional food security resilience is vital for all PICs. As the importance of regional solutions to the pandemic gain momentum, it will be important to test whether our approach to regional hubs and clusters remains fit for purpose. Effective regional networks will ensure PICs are able to maintain regional data on food production and variation, and share agricultural knowledge and learning, and in doing so reduce fragility and minimize future shocks.

Build resilience to shocks and stressors through increased investment in forecast-based financing and anticipatory actions to mitigate the impacts of climate change on vulnerable farmers and households

As the region prepares for the next tropical cyclone season and ongoing La Niña/El Niño risks, early warning systems to track climate risks and potential food shortages, as well as national preparedness and risk reduction measures are an immediate priority. Growing empirical evidence from other regions highlights the important role that anticipatory action can play in offsetting impacts on vulnerable populations, particularly in a region where climate hazards are recurrent and, in some cases, predictable. Several studies show that every US\$1 invested in anticipatory action can have a return of up to US\$7 in added benefits and avoided losses. The continued improvements in forecasting shocks and disasters, as well as growing risk and impact data (including mVAM), make anticipatory action for food security and livelihoods increasingly suitable to the Pacific context. This includes linking anticipatory action initiatives through climate resilience and shock-responsive/adaptive social protection programming.

Track, measure and assess recovery needs and progress

Strengthen data-driven and evidence-based policy and programme decision-making to improve food security and nutrition outcomes

A number of key focus areas will require strengthened data collection and sharing to inform evidence-based decision-making, including data disaggregated by age, gender and disability, and statistics and knowledge management to support post-COVID-19 recovery. Substantial efforts have been put into assessments, data collection and analysis since the onset of the pandemic. Further timely data will be required on household food security, food production and shortages, commodity flows and prices, changes in nutrition and health, employment and poverty rates, business sector recovery, and continued impacts on urban and rural livelihoods

to inform evidence-based decision-making for recovery. It is important that organizations continue to collect relevant information and share it with Pacific Island governments and development partners to inform COVID-19 policy and programme responses. This includes interventions related to social protection, the labour market, food systems and nutrition, and ensuring disaggregated data inform targeting and inclusion of the most vulnerable to achieve SDG 2 (zero hunger) and ensure no one is left behind.

Continue to monitor the situation and impacts closely

The COVID-19 pandemic will have a lasting impact on the economies of PICs. As the crisis continues, governments and their partners need to be vigilant in evaluating the effectiveness of the stimulus and relief measures they are implementing, ensuring that they are reaching the most vulnerable and assessing whether they are achieving the desired results. Timely implementation of appropriate corrective actions can stave off deeper economic decline. The work of economic recovery and building the resilience of domestic food systems will require a strong multi-partnership and whole-of-systems approach between all stakeholders. United Nations agencies, governments and civil society need to continue to monitor the situation and, as needed, issue updated common analysis and key messages, including through the regional Pacific Food Security Cluster.



ANNEX 1: FAO, IFAD, UNICEF AND WFP COVID-19 RESPONSE ACTIVITIES

©IFAD/Andrew Esiebo

Development partners across the region have been undertaking new activities or reprogramming those already under way in an effort to respond to the impact of COVID-19 on food security across the Pacific. This section highlights the activities of the four United Nations agencies that supported the development of this report. To the extent possible, the activities are described in relation to the opportunities discussed in the previous section, with the aim of promoting dialogue about where to continue to focus funding and interventions; how to extend, join up or collaborate on future activities; and identifying gaps, overlaps and new opportunities.

FAO

In 2020, FAO's assistance to respond to the impact of COVID-19 across the Pacific fell under the Pacific Humanitarian Team's COVID-19 Humanitarian Response Plan,¹³ primarily in the areas of boosting domestic food production and value chain/livelihood opportunities, prevention and management of transboundary animal diseases, shared coordination (in partnership with WFP) of the regional Pacific Food Security Cluster and development of relevant policy papers outlining the impact of the pandemic on food security and nutrition across the Pacific region.

13. The Pacific Humanitarian Team's COVID-19 Humanitarian Response Plan summarizes activities by 112 organizations in 10 COVID-19 response clusters in 14 countries. See https://reliefweb.int/sites/reliefweb.int/files/resources/PHT%20HRP%20COVID-19%20Final%20Report%202021_05_12.pdf.

These activities align with opportunities outlined in ‘Opportunities to strengthen and realign domestic food systems’: boost local food production and consumption to ensure food and nutrition security; ensure that regional networks and hubs are effective and fit for purpose; and continue to closely monitor situation and impacts.

FAO’s support has been delivered through roughly 25 projects – using both new and reprogrammed funds – across the region. More than 13,522 households have benefited from this support, including 13,485 who have received selected inputs (including seeds, seedlings and hand tools). A similar number have participated in training sessions, which have enhanced households’ capacities in improved agricultural production.

Enhancing domestic food production

A number of FAO’s projects simultaneously responded to TC Harold (affecting Vanuatu and Fiji in April 2020) while also addressing the impacts of COVID-19 on these two countries, mindful that many communities and households were affected by both the pandemic and the tropical cyclone. FAO responded by distributing much-needed inputs, such as seeds, seedlings, shade cloth and hand tools, and delivering training on aspects of agricultural production such as food processing and preservation techniques.

Prevention and management of transboundary animal diseases

Mindful of the potentially devastating cumulative impact of the spread of transboundary animal diseases on local livestock production, when food security concerns are already high, FAO is providing support to a number of countries across the region to prevent and manage the spread of these diseases.

Development of policy papers and other related documents

FAO has released several technical documents describing the impact of COVID-19 on nutrition, food systems and food security, and outlining ongoing and recommended response activities, since the onset of the pandemic. A number of these were regional in nature, while others focused on one particular country.

IFAD

IFAD’s COVID-19 response activities contribute to a number of the opportunities identified: boosting local food production and consumption to ensure food and nutrition security; investing in digital and agricultural innovations; making small-scale agriculture more productive and remunerative; continuing to monitor the situation and impacts closely; bolstering intraregional agricultural investment and trade to strengthen the regional economy; and empowering and supporting women and girls by creating opportunities for women’s economic participation and tackling harmful social norms. With the exception of the Pacific Islands Rural and Agriculture Stimulus (PIRAS) Facility, the activities described below are or were part of existing projects that redirected funds to respond to the COVID-19 crisis.

Driving Delivery of Results in the Agriculture Sector (DELIVER)

Delivery Associates is providing support to Samoa’s Ministry of Agriculture and Fisheries to build capacity in its high-quality, results-oriented project delivery team. Key support provided in July and August 2020 has helped the Ministry optimize data collection and sharing, including by developing a market data survey app with the Samoa Bureau of Statistics.

Some of these data were used to support the Ministry's analysis of the viability of various export markets for Samoan agricultural commodities, which was incorporated into the design of the government's approved post-COVID-19 agriculture sector stimulus packages. These data also contribute to new monthly data insight reports, which capture a range of important outcome indicators, such as crop prices and volumes at market, as well as data on local fisheries catch and retail meat sales. In the future, the project will help streamline and improve information collected and used to support sector governance routines and empower better and more focused planning and prioritization of cross-government effort in the sector.

Promoting nutritious food systems in the Pacific Islands

In response to the pandemic, IFAD and the Technical Centre for Agricultural and Rural Cooperation commissioned two assessments during this project's final year aimed at analysing the impact of COVID-19 on food systems and nutrition:

- A USP-led assessment, carried out in partnership with Friend Fiji and Kastom Garden Solomon Islands, conducted 46 focus group discussions and 425 household interviews across 13 communities in Fiji and the Solomon Islands between July and August 2020.
- As part of the project's focus on digital innovation, and in response to the urgent need for food price data during the pandemic, the project commissioned the first-ever crowdsourcing pilot initiative in the Pacific to test the collection of real-time data on the impacts of COVID-19 on domestic food markets and prices. The rapid assessment used an app to gather price information for an identical "basket" of 20 common food items sold in markets throughout Fiji, Samoa and the Solomon Islands. In July 2020, TraSeable and its partners collected a total of 30,184 market price data points across 21 locations in the 3 countries and produced a report on their findings. This pilot demonstrated the viability of crowdsourcing market prices and provided a reliable indication of domestic food prices in each country.

PIRAS Facility

The PIRAS Facility is a new activity beginning in June 2021 and ending in September 2023. It aims to support economic recovery from the COVID-19 pandemic in Fiji, Samoa, the Solomon Islands, Tonga and Vanuatu through improved income generation and food and nutrition security for rural communities. The PIRAS Facility will collaborate with existing efforts to map vulnerable populations and make data available, with a view to ensuring that investments are relevant and targeted. As part of the efforts to improve food self-sufficiency and agricultural employment, women and youth will be provided with business and technical skills, access to productive resources, and market relationships. Agribusiness small and medium-sized enterprises (SMEs) will be supported in accessing markets through the promotion of locally grown food, and their inclusion in government purchasing programmes (schools, hospitals, hospitality healthy food packages). Smallholder farmers, fishers and SMEs engaged in food processing will be trained in safe post-harvest handling and food preservation. Market actors will be supported in safe food distribution through the introduction of COVID-19 safety protocols along supply chains. The initiative will scale up the use of tested digital solutions for market linkages, agricultural advice and nutrition awareness, such as the My Kana and TraSeable Farms apps. The initiative will also crowdsource food production and consumption data, displaying them through easy data visualization products.

UNICEF

Nutrition sub-clusters and sectors activated in Vanuatu, Kiribati, the Solomon Islands and Fiji supported the implementation of COVID-19 nutrition responses in the 14 PICs in which UNICEF works. UNICEF's activities correspond to the opportunities outlined in 'Opportunities to strengthen and realign domestic food systems': boost local food production and consumption to ensure food and nutrition security; design and strengthen nutrition-sensitive social protection to reach the most vulnerable; and ensure that regional networks and hubs are effective and fit for purpose. These responses fell under three broad categories: capacity-building of health workers to provide essential nutrition services, ensuring quality essential nutrition services, and promoting behaviours to seek nutrition care.

Building the capacity of health workers

Health workers in all 14 PICs received technical guidance on breastfeeding, complementary feeding, nutrition counselling, treatment of children with severe acute malnutrition, maternal nutrition, and healthy eating in the context of COVID-19. Nearly 2,600 health facility staff and community health workers across the 14 countries were trained on delivery of essential health and nutrition services.

Strengthening essential nutrition services, including micronutrients and screening and treatment of severe cases of acute malnutrition

Nearly 16,417 children in Vanuatu and Kiribati have been screened for severe acute malnutrition, and 17,315 children were provided with vitamin A and deworming medicines. Across the 14 PICs, more than 37,000 children accessed essential nutrition services, including deworming and vitamin A, through health facilities and outreach services. In the Federated States of Micronesia, vitamin A stocks were provided as in-kind support to all four states.

Supporting behaviours to seek nutrition care services

In Kiribati, 622 volunteers from churches and local non-governmental organizations were mobilized to promote nutrition messages on healthy eating. Messages were also integrated into risk communication channels, including through SMS messages, roadshows, dramas and communication materials, reaching 49,557 community members. As part of a nutrition outreach campaign in Vanuatu, 5,598 mothers and children received information on infant and young child feeding practices to ensure that families have the knowledge needed to provide their children with healthy, balanced meals. More than 400,000 people across the 14 PICs received nutrition-related messages on COVID-19 through social media platforms and community mobilization activities.

WFP

As a humanitarian organization and in recognition of the new reality and shifting needs in the Pacific as a result of COVID-19 and climate shocks, WFP expanded its work in 2020 and took on a more active role to address gaps and support national capacities. This included, for example, launching the Pacific Humanitarian Air Service and logistics hub, which transported 125 tons of medical cargo in the absence of viable commercial air freight options. WFP also supported the Government of Fiji with cash top-ups for 10,882 vulnerable social welfare recipients affected by the tropical cyclone, enabling national social protection systems to be more shock-responsive.

WFP is providing technical support to Pacific Island governments and ministries across the region to contribute to the opportunities described under strengthening data-driven, evidence-based policy and programme decision-making to improve food security and nutrition outcomes; and building resilience to shocks and stressors.

mVAM

mVAM monitors the impacts of COVID-19 and other shocks on food security, nutrition and livelihoods across five PICs, issuing regular data and analysis, including impacts disaggregated by location (rural or urban) and on the most vulnerable: households headed by women, with children under 5 or with people with disabilities.

WFP strengthens regional and national food security and cash coordination structures

It does so through technical support to the regional Pacific Food Security Cluster (as co-lead with FAO), the regional Pacific Cash Working Group (as co-lead with Oxfam) and the Fiji Cash Working Group (as the secretariat). WFP is building institutional capacity in emergency preparedness and response planning, particularly looking at supporting the poorest and most vulnerable populations, who are often most affected by shocks and face the greatest challenges to recovery.

REFERENCES

- ADB. 2018. *Women and Business in the Pacific*. Manila: Asian Development Bank. <https://www.adb.org/sites/default/files/publication/445821/women-business-pacific.pdf>
- ADB. 2020a. *Food Security in Asia and the Pacific amid the COVID-19 Pandemic*. ADB Briefs No. 139. Manila: Asian Development Bank.
- ADB. 2020b. *Pacific Economic Monitor*, July. Manila: Asian Development Bank. <https://www.adb.org/publications/pacific-economic-monitor-july-2020>
- Anderson, I. 2021. Obesity, COVID-19 and the Asia-Pacific. DevPolicy blog, 13 May. https://devpolicy.org/obesity-covid-19-and-the-asia-pacific-20210513-1/?utm_source=rss&utm_medium=rss&utm_campaign=obesity-covid-19-and-the-asia-pacific-20210513-1
- Aqorau, T. 2020. COVID-19 and its likely impact on the tuna industry in the Pacific Islands. DevPolicy blog, 5 November. <https://devpolicy.org/covid-19-and-its-likely-impact-on-the-tuna-industry-in-the-pacific-islands-20200427-1/>
- Blankenship, J.L. et al. 2020. High double burden of child stunting and maternal overweight in the Republic of the Marshall Islands. *Matern Child Nutr.* 16(S2):e12832. <https://doi.org/10.1111/mcn.12832>
- Boyle, M. 2020. Revising the barter trade in Fiji on Facebook. *FBC News*, 27 April. <https://www.fbcnews.com.fj/news/covid-19/revising-the-barter-trade-in-fiji-on-facebook/>
- Charlton, K.E. et al. 2016. Fish, food security and health in Pacific Island countries and territories: a systematic literature review. *BMC Public Health* 16, 285. <https://doi.org/10.1186/s12889-016-2953-9>
- Chen, B.K. et al. 2011. Multi-Country analysis of palm oil consumption and cardiovascular disease mortality for countries at different stages of economic development: 1980-1997. *Global Health* 7, 45. <https://doi.org/10.1186/1744-8603-7-45>
- COVID-19 Response Gender Working Group. 2020. *Gendered Impacts of COVID-19 on Women in Fiji*. http://www.fwrm.org.fj/images/Gender_and_COVID_Guidance_Note_-_Rapid_Gender_Analysis.pdf
- Crisis24. 2021. Pacific: Nations and territories continue to adjust COVID-19-related measures as of April 5. Update 53. <https://crisis24.garda.com/insights-intelligence/intelligence/risk-alerts/wip10011737654/pacific-nations-and-territories-continue-to-adjust-covid-19-related-measures-as-of-april-5-update-53>
- Darmadi, G. 2020. Fijians turn to bartering system as coronavirus shutdowns cause mass unemployment. *ABC News*, 31 May. <https://www.abc.net.au/news/2020-06-01/as-unemployment-soars-fijians-turn-to-bartering-to-get-by/12303252>
- Evans, M. et al. 2001. Globalization, diet, and health: an example from Tonga. *Bulletin of the World Health Organization* 79 (9): 862-856. <https://apps.who.int/iris/handle/10665/74978>
- Farbotko, C. and T. Kitara. 2020. How is Tuvalu securing against COVID-19? DevPolicy blog, 6 April. <https://devpolicy.org/how-is-tuvalu-securing-against-covid-19-20200406/>
- Farrell P. et al. 2020. COVID-19 and Pacific food system resilience: opportunities to build a robust response. *Food Security* 12:783–791. doi:10.1007/s12571-020-01087-y.
- Fijian Government. 2020. Close to 2,500 receive MSME concessional loan to date, 9 November. <https://www.fiji.gov.fj/media-centre/news/close-to-2,500-receive-msme-concessional-loan-to-d>
- FAO. 2019a. *Samoa Food Security Profile*. Apia, Samoa: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/ca7206en/ca7206en.pdf>

FAO. 2019b. *School Nutrition Education Programmes Scoping Study and Capacity Needs Assessment – Final Report*. Apia, Samoa: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/ca2935en/ca2935en.pdf>

FAO. 2019c. *Tonga Food Security Profile*. Apia, Samoa: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/ca6039en/ca6039en.pdf>

FAO. 2020a. Addressing COVID-19's impacts and structural crisis in the Pacific. <http://www.fao.org/news/story/en/item/1279154/icode/>

FAO. 2020b. *Gendered impacts of COVID-19 and equitable policy responses in agriculture, food security and nutrition*. Rome: Food and Agriculture Organization of the United Nations.

FAO. 2020c. *Impacts of COVID-19 on the food systems in the Pacific Small Island Developing States and a look into the PSIDS responses*. Apia, Samoa: Food and Agriculture Organization of the United Nations Sub-Regional Office for the Pacific Islands.

FAO. 2020d. *National agrifood systems and COVID-19 in Fiji. Effects, policy responses and long term implications*. Rome: Food and Agriculture Organization of the United Nations. <https://doi.org/10.4060/cb1349en>

FAO. 2020e. *National agrifood systems and COVID-19 in Solomon Islands. Effects, policy responses and long term implications*. Rome: Food and Agriculture Organization of the United Nations. <https://doi.org/10.4060/cb1345en>

FAO. 2020f. *Small Island States Response to COVID-19: Highlighting food security, nutrition and sustainable food systems*. Rome: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/ca8994en/CA8994EN.pdf>

FAO. 2020g. *The impact of COVID-19 on food and agriculture in Asia and the Pacific and FAO's response (APRC/20/12)*. Thirty-fifth Session of the FAO Regional Conference for Asia and the Pacific (APRC 35). Bangkok: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/nd476en/nd476en.pdf>

FAO. 2020h. *Tuvalu Food Security Profile*. Apia, Samoa: Food and Agriculture Organization of the United Nations. <http://www.fao.org/documents/card/en/c/CA8661EN/>.

FAO and FHI 360. 2016. *Minimum Dietary Diversity for Women: A Guide for Measurement*. Rome: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/i5486e/i5486e.pdf>

FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*. Rome: Food and Agriculture Organization of the United Nations.

FAO and SPC. 2019. *Country gender assessment of agriculture and the rural sector in Fiji*. Suva, Fiji: Food and Agriculture Organization of the United Nations and the Pacific Community. www.fao.org/3/ca6670en/ca6670en.pdf

Government of the Cook Islands. 2020. *COVID-19 Economic Response Plan: Phase II Progress Report and announcement on the Wage Subsidy scheme*. Avarua, Cook Islands: Office of the Deputy Prime Minister.

Horse, B. et al. 2019. Dietary Diversity of an Adult Solomon Islands Population. *Nutrients* 11(7), 1622. <https://doi.org/10.3390/nu11071622>

Howes, S. and S. Surandiran. 2020. Pacific remittances: holding up despite COVID-19. DevPolicy blog, 16 November. <https://devpolicy.org/pacific-remittances-covid-19-20201116/>

Hu, E.A. et al. 2012. White rice consumption and risk of type 2 diabetes: meta-analysis and systematic review. *BMJ* 344: e1454. doi:10.1136/bmj.e1454.

ILO. 2020a. *Impact of COVID19 on employment and business in the Pacific*. Geneva: International Labour Organization.

ILO. 2020b. More than one in six young people out of work due to COVID-19, 27 May. https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_745879/lang--en/index.htm

IMF. 2020. Pacific Islands Threatened by COVID-19. *IMF News*, 27 May. Washington, D.C.: International Monetary Fund. <https://www.imf.org/en/News/Articles/2020/05/27/na-05272020-pacific-islands-threatened-by-covid-19>

Investment Fiji. 2018. *Agriculture Sector Overview*. Suva, Fiji: Investment Fiji.

Investment Fiji. 2019. *Sector Profiles*. Suva, Fiji: Investment Fiji.

Jones, H.A. and K.E. Charlton. 2015. A cross-sectional analysis of the cost and affordability of achieving recommended intakes of non-starchy fruits and vegetables in the capital of Vanuatu. *BMC Public Health* 15, 301. <https://doi.org/10.1186/s12889-015-1644-2>

Kadandale, S., R. Marten and R. Smith. 2019. The palm oil industry and noncommunicable diseases. *Bulletin of the World Health Organization* 97(2), 118-128. Geneva: World Health Organization. <http://dx.doi.org/10.2471/BLT.18.220434>

Kass, D.A., P. Duggal and O. Cingolani. 2020. Obesity could shift severe COVID-19 disease to younger ages. *The Lancet* 395(10236), 1544-1545. [https://doi.org/10.1016/S0140-6736\(20\)31024-2](https://doi.org/10.1016/S0140-6736(20)31024-2)

Kiribati National Statistics Office. 2019. *Kiribati Social Development Indicator Survey 2018-19, Survey Findings Report*. South Tarawa, Kiribati: National Statistics Office. https://mics-surveys-prod.s3.amazonaws.com/MICS6/East%20Asia%20and%20the%20Pacific/Kiribati/2018-2019/Snapshots/Kiribati%20MICS%20KSDIS%202018-19%20Statistical%20Snapshots_English.pdf

Koroivulaono, T.K. and W. Reiher. 2020. Keeping COVID-19 at bay in the Marshall Islands. *DevPolicy* blog, 16 April. <https://devpolicy.org/keeping-covid-19-at-bay-in-the-marshall-islands-20200416/>

Logistics Cluster and WFP. 2020. Shipping Operations Situation Update, 1 December. Logistics Cluster and World Food Programme. <https://logcluster.org/document/pacific-shipping-operations-update-1-december-2020>

McGregor, A. and K. Stice. 2018. *Breadfruit Market and Marketing of Pacific Island Breadfruit with a focus on Fiji and Samoa*. Pacific Community and Pacific Agriculture Policy Project. <https://pafpnet.spc.int/about-papp/our-areas-of-focus/policy-development/855-breadfruit-marketing-study>

Monteiro, C.A. et al. 2019. *Ultra-processed foods, diet quality, and health using the NOVA classification system*. Rome: Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/ca5644en/ca5644en.pdf>

Naidu, S. 2020. More Than 36,000 Seed Packages Distributed By Agriculture Ministry. *Fiji Sun*, 31 July. <https://fijisun.com.fj/2020/07/31/more-than-36000-seed-packages-distributed-by-agriculture-ministry/>

Naivalurua, N. 2020. 166 sugarcane farmers to venture into Rice Farming. *Fijivillage*, 7 May. <https://www.fijivillage.com/news/166-sugarcane-farmers-to-venture-into-Rice-Farming-r84xf5/#%3A~%3Atext%3DThe%20Minister%20says%20the%20Fiji%20cost%20to%20every%20sugarcane%20farmer>

Nelles, W. 2018. Building the Evidence Base on the Agriculture Nutrition Nexus: Marshall Islands. CTA Working Paper 18/03, March. Wageningen, The Netherlands: Technical Centre for Agricultural and Rural Cooperation.

PIFON. 2020a. *Addressing the Impact of COVID-19 on Agriculture, Food Security and Nutrition in Fiji*. Suva, Fiji: Pacific Island Farmers Organisation Network.

PIFON. 2020b. *COVID-19 & Agriculture: Case Study Samoa*. Unpublished paper. Suva, Fiji: Pacific Island Farmers Organisation Network.

PIFON. 2020c. *COVID-19 Overview: Expected Impacts in the Pacific*. Suva, Fiji: Pacific Island Farmers Organisation Network.

PIFON. 2020d. *Pacific Farmers Have Their Say*. Suva, Fiji: Pacific Island Farmers Organisation Network.

PIFS. 2018. *First Quadrennial Pacific Sustainable Development Report*. Suva, Fiji: Pacific Islands Forum Secretariat.

PIFS. 2019. *Draft Summary Report Pacific Regional Beijing +25*. Suva, Fiji: Pacific Islands Forum Secretariat.

Pacific Women. 2021. *Gender and COVID-19 in the Pacific: Gendered impacts and recommendations for response*. Thematic Brief. Suva, Fiji: Pacific Women. <https://pacificwomen.org/research/pacific-women-thematic-brief-gender-and-covid-19-in-the-pacific/>

PSC. 2020. *COVID-19 Pacific Island Response Matrix - 15 December 2020*. Canberra: Australian Pacific Security College, Australian National University. <https://docs.google.com/document/d/1Utn29lbJlwYooy23shKGvgEbcvbkqSuP002LsqL9JaU/edit>

RNZ. 2020. Fiji records increase in domestic violence cases during Covid-19 lockdowns. Radio New Zealand, 5 May. <https://www.rnz.co.nz/international/pacific-news/415881/fiji-records-increase-in-domestic-violence-cases-during-covid-19-lockdowns>

Ratha, D. et al. 2020. *Migration and Development Brief 33: Phase II: COVID-19 Crisis through a Migration Lens*. Washington, D.C.: KNOMAD-World Bank.

Rawalai, L. 2020. COVID-19: Government suspends inter-island shipping services. *The Fiji Times*, 25 March. <https://www.fijitimes.com/covid-19-government-suspends-inter-island-shipping-services/>

Robins, L. et al. 2020. *COVID-19 and food systems in the Indo-Pacific: An assessment of vulnerabilities, impacts and opportunities for action*. ACIAR Technical Report 96. Canberra: Australian Centre for International Agricultural Research.

Sievert, K. et al. 2019. Processed Foods and Nutrition Transition in the Pacific: Regional Trends, Patterns and Food System Drivers. *Nutrients* Jun 13;11(6):1328. doi: 10.3390/nu11061328. PMID: 31200513; PMCID: PMC6628317.

SPC. 2019. *Implications of climate-driven distribution of tuna on Pacific Island economies*. SPC Policy Brief 32/2019. Suva, Fiji: Pacific Community. https://www.spc.int/DigitalLibrary/Doc/FAME/Brochures/Anon_19_PolicyBrief32_TunaClimate.html

Taylor, M., A. McGregor and B. Dawson (eds.). 2016. *Vulnerability of Pacific Island agriculture and forestry to climate change*. Suva, Fiji: Pacific Community.

TraSeable Solutions. 2020. *Crowdsourcing Market Prices: Assessing the Impact of COVID-19 in Fiji, Samoa and Solomon Islands*. Suva, Fiji: TraSeable Solutions.

Troubat, N., E. Faaola and R. Aliyeva. 2020. *Food security and food consumption in Samoa based on the analysis of the 2018 Household Income and Expenditure Survey*. Apia, Samoa: Food and Agriculture Organization of the United Nations and Samoa Bureau of Statistics. <https://doi.org/10.4060/cb0613en>

Underhill, S.J.R. et al. 2020. *COVID-19 impacts on farmers, market vendors and consumers in Tonga, Fiji and Samoa*. Technical Project Report. Sunshine Coast, Australia: University of the Sunshine Coast.

UNICEF. 2019. *The State of the World's Children 2019. Children, Food and Nutrition: Growing well in a changing world*. New York: United Nations Children's Fund.

UNICEF. 2020. *Impact of COVID-19 on Diets in the Pacific: Pre-Existing Nutrition Challenges and Diets/Consumption of Main Food Groups in Pacific*. June 2020 draft. New York: United Nations Children's Fund.

UNICEF, WHO and World Bank. 2021. *Levels and trends in child malnutrition: Key Findings of the 2021 Edition of the Joint Child Malnutrition Estimates*. New York: United Nations Children's Fund, World Health Organization and World Bank Group. <https://data.unicef.org/resources/jme-report-2021/>

UN ESCAP. 2020. *The Impact and Policy Responses to COVID-19 in Asia and the Pacific*. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.

UN Pacific. 2020a. *Socio-Economic Impact Assessment of COVID-19 in Fiji. Summary of Key Findings and Policy Recommendations*. Suva, Fiji: United Nations Pacific.

UN Pacific. 2020b. *UNCT Fiji COVID-19 Multi-Sectoral Response Plan (Version 1.0_August 2020)*. Suva, Fiji: United Nations Pacific.

UN Women. 2019. *Ending Violence is our business: Workplace responses to intimate partner violence in Asia and the Pacific*. Bangkok: UN Women.

UN Women. 2020. *The First 100 Days of COVID-19 in Asia and the Pacific: A Gender Lens*. Bangkok: UN Women.

USP. 2020a. *Assessing Nutrition and Socio-economic Impact of COVID-19 on Rural and Urban Communities in Fiji*. Suva, Fiji: University of the South Pacific.

USP. 2020b. *Assessing Nutrition and Socio-economic Impact of COVID-19 on Rural and Urban Communities in Solomon Islands*. Suva, Fiji: University of the South Pacific.

Vakasukawaqa, A. 2020. Kids without meals. *Fiji Times*, 7 June. <https://www.fijitimes.com/kids-without-meals/>

WCPFC. 2020. *Circular No.: 2020/125*, 22 October. Kolonia, Federated States of Micronesia: Western and Central Pacific Fisheries Commission. <https://www.wcpfc.int/covid19>

World Bank. 2020a. COVID-19: Remittance Flows to Shrink 14% by 2021. Press release, 29 October. https://www.worldbank.org/en/news/press-release/2020/10/29/covid-19-remittance-flows-to-shrink-14-by-2021?cid=EXT_WBEmailShare_EXT

World Bank. 2020b. *East Asia and Pacific in the Time of COVID-19 East Asia and Pacific Economic Update (April)*. Washington, D.C.: World Bank.

World Bank. 2020c. *Papua New Guinea High Frequency Phone Survey on COVID-19: Results from Round 1*. Washington, D.C.: World Bank. <https://openknowledge.worldbank.org/handle/10986/34907>

World Bank. 2020d. *Solomon Islands High Frequency Phone Survey on COVID-19: Results from Round 1*. Washington, D.C.: World Bank. <https://openknowledge.worldbank.org/handle/10986/34908>

World Bank. 2021a. *Macro Poverty Outlook, East Asia and the Pacific, Spring Meetings 2021*. Washington, D.C.: World Bank. <http://pubdocs.worldbank.org/en/879251567711913460/mpo-eap.pdf>

World Bank. 2021b. *Uneven Recovery East Asia and Pacific Economic Update (April)*. Washington, D.C.: World Bank.

WFP. 2018. *Food Security In Vulnerable Islands: A Regional Food Security Atlas Of The Pacific*. Suva, Fiji: World Food Programme and Pacific Community.

WFP. 2020a. *Macro analysis of import dependency based on 2016-2018 data review, Fiji, Samoa, Marshall Islands, Tonga, Tuvalu, and Palau*. Suva, Fiji: World Food Programme. <https://docs.wfp.org/api/documents/WFP-0000117677/download/>

WFP. 2020b. Latest WFP Pacific mVAM dashboard links: Fiji, Kiribati, Samoa, Tonga, Vanuatu. Pacific Food Security Cluster. <https://fscluster.org/pacific/document/latest-wfp-pacific-mvam-dashboard-links>

WFP. 2020c. *Samoa: Macro and Micro Level Analysis of Samoa vulnerability to food security due to COVID-19*. Vulnerability Analysis Mapping. Bangkok: World Food Programme.

World Health Organization. 2019. Prevalence of anaemia in children aged 6–59 months. Global Health Observatory Database.



International Fund for Agricultural Development

Via Paolo di Dono, 44 - 00142 Rome, Italy

Tel: +39 06 54591 - Fax: +39 06 5043463

Email: ifad@ifad.org

www.ifad.org

 facebook.com/ifad

 instagram.com/ifadnews

 linkedin.com/company/ifad

 twitter.com/ifad

 youtube.com/user/ifadTV

