

COVID 19 OVERVIEW



AGRICULTURE | FOOD SECURITY | NUTRITION
EXPECTED IMPACTS IN THE PACIFIC

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Abbreviations

ANU	Australian National University
BMI	Body Mass Index
CNMI	Commonwealth of the Northern Mariana Islands
CTA	The Technical Centre for Agriculture and Rural Cooperation
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAO/SAP	FAO Sub-Regional Office for the Pacific
FICI	Food Import Capacity Index
FJD	Fiji Dollars
FNPF	Fiji National Provident Fund
FRIEND	Foundation for Rural Integrated Enterprises & Development
FSM	Federated States of Micronesia
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
ICCO	International Cocoa Organization
KGA	Kastom Gaden Association
NCD	Non-Communicable Diseases
NGO	Non-Governmental Organization
PICs	Pacific Island Countries
PNG	Papua New Guinea
RMI	Republic of the Marshall Islands
SEIA	Socio-Economic Impact Assessment
SPC	Secretariat of the Pacific Community
TC	Tropical Cyclone
TLB	Taro Leaf Blight
USD	US Dollars
VCO	Virgin Coconut Oil

1 Executive Summary

The actual incidence of COVID-19 infections in Pacific Island Countries (PICs) has been minimal, outside some of the French and US Territories. However, overall, the economic and social impact of the pandemic has been substantial and potentially catastrophic. This includes a significant effect on food security and nutrition – which has been largely driven by the demand side rather than the supply side.

The impact of the pandemic on capacity to produce agricultural products

Overall, the COVID-19 pandemic has not had any discernible direct impact on the capacity of Pacific island countries (PICs), to produce food agricultural products. Farming systems in the region are essentially small holder based, where apart from land, the labour is supplied by the farm household itself. This pandemic has not had a negative impact on this labour supply. If anything, there has been an increase in labour availability as some people who have lost their jobs in urban areas or in tourism, have returned to their rural home villages, and the agriculture labour scheme in Australia and New Zealand has stopped because of border closures.

The impact of the pandemic on the markets for agricultural products

The impact on markets has varied significantly, depending on the type of product and the market that is being targeted.

Basic food staples. Food staples are largely produced for local consumption. Overall, the domestic markets for food staples such as taro, cassava and sweet potato have not, as yet, been significantly adversely impacted. This is despite a fall in overall income through the loss of jobs and the reduction in working hours. These food staples are seen as necessities with a relatively low-income elasticity (consumption less impacted by changing income). The main substitute for locally grown food staples is imported grains (rice and wheat flour). The world price for rice was significantly higher in the 1st quarter of 2020 compared with 2019 and some substitution of traditional staples might be expected. This could be further impacted depending on the monetary policy actions taken by countries in response to their economic situation affecting the relative prices of imports.

Export commodities. The world prices for the PICs export commodities (coffee, cocoa, palm and coconut oil) have not, as yet, been severely adversely impacted. In the case of coffee, there has been a significant price increase in 2020. For sugar there has been some decrease in the world price. The long-term impact of the pandemic on global commodity markets will depend on the length and depth of the global recession.

Horticultural products, spices and stimulants. The impact of the pandemic on the markets for these products has depended on whether they are sold to the domestic local population, sold to tourists, or exported. For horticultural products (fruit, vegetables, flowers), the main market in the Pacific islands is the local population. The impact of the pandemic on the market for these products has varied, depending on the product and location. The products most severely impacted are those linked to tourism – such as pineapples in Fiji and spices in Vanuatu. Overall, horticultural products are likely to have a higher income elasticity than staple food products such as root crops (consumption more impacted by changing income). Thus, their demand can be expected to be more severely impacted by job losses and falling income. Floriculture products in the Pacific are almost entirely sold on the domestic market. Surprisingly, very little was being sold to hotels – so the cessation of tourism has had minimal impact on the floriculture industry. While flowers are generally regarded as a luxury, demand has again proven to be surprisingly resilient during difficult times.

When it comes to the fruit and vegetables that are exported to niche markets, such as papaya, fresh basil and fresh turmeric, these markets have remained intact. However, because of their perishability, they must be airfreighted, and due to the pandemic (no tourists), fundamental marketing issues are now faced.

For spice products, the export markets have largely remained intact. However, where there is a dependency on selling spices to tourists (“suitcase exports”), as in Vanuatu, these markets have closed for the foreseeable future. The market for the stimulants, kava and betel nut, are largely domestic, and have not been significantly impacted by pandemic.

Livestock products. This market is entirely domestic – with the exception of some beef from Vanuatu. The pandemic has impacted on the domestic market for livestock products – particularly for the products from pigs and beef cattle. In some countries the collapse in tourism has impacted on the demand for locally grown eggs.

The impact of the pandemic on the marketing of agricultural products

The only Pacific island agricultural products where their marketing has been severely impacted by the pandemic are those that depend on air freight for export.

These are mainly fruit, vegetables and fresh spice products from Fiji. With the cessation of all visitor arrivals, air freight capacity has drastically fallen and freight costs drastically risen. This now threatens the very survival of these important agricultural growth industries that make a substantial contribution to rural livelihoods and food security. A policy reset is now seen as a necessity for a national airline whose focus was largely, hitherto, on supporting the development of the tourism industry.

The impact of the pandemic on the consumption of sufficient nutritious food by Pacific island populations

Prior to the pandemic, there was considerable variability between PICs, and segments within each country, in the degree to which they consumed adequate nutritious food. The micro states, which are the most food insecure, produce only small volumes of traditional staples and very little fruit and vegetables. Their populations depended on large per capita volumes of imported food and have limited export earning capacity to purchase this food. In the larger Melanesian countries and the mid-sized Polynesian countries, much bigger per capita volumes of nutritious food are produced and there is far greater income earning capacity to pay for the necessary food imports. However, even within these larger countries with substantial arable land resources, there are sizable segments of the population living in urban and peri urban areas that are food insecure. In addition, there are significant numbers of landless people, particularly in PNG, living in rural areas. Overall, in the Pacific islands, with the exception of the micro states, there was generally sufficient nutritious locally grown food available. However, often adequate quantities of this locally produced food were not consumed. This is due to a combination of factors, including: inadequate household income; and, a preference for imported food which is often more convenient and cheaper.

The pandemic in the Pacific islands, with the exceptionally low incidence of the virus itself, is unlikely to have a direct negative impact on the availability of nutritious locally produced food. However, there are some indirect negative impacts on the availability of locally grown food. These arise from such things as increased food theft, and the marketing constraints arising from less resources being available for the maintenance of rural roads. Offsetting these indirect negative impacts, is the apparent increasing interest in home gardening by people living in urban and peri-urban areas. In addition, there has been a flow of some people back to their rural villages and an overall increase in the availability of labour to work in agriculture.

In the Pacific islands, the main impact of the COVID – 19 pandemic on nutritious food consumption has been on the demand and not the production side. The economies of countries such as Fiji, Vanuatu, New Caledonia, the Cook Islands and Palau are heavily dependent on tourism. This sector is by far the largest direct employer of labour with significant multiplier impact effects throughout the rest of the economy. In Tonga, Samoa and the Solomon Islands, tourism is less important but is still of considerable significance being a major employer of labour. Visitor arrivals have ceased to all the PICs and it is expected that it will take several years, at best, to recover to pre pandemic levels. The closure of the tourism sector has led to massive job losses directly and indirectly through the linkage of tourism to the rest of the economy.

The PICs do not have in place publicly funded social safety nets to cushion impacts of sudden job losses. For the poor living in urban and peri-urban formal and informal settlements, the food that is purchased for survival is mainly imported rice and locally grown cassava and sugar etc. The purchasing of relatively expensive fruit and vegetables is now even less frequent than prior to the pandemic. For many of the residents of these settlements, returning to rural villages is not an option even if they wanted to. A new emphasis on back yard farming is highly desirable and needs to be further encouraged. However, there are significant limits to what can be realistically achieved in this area.

Lower income households, both rural and urban, in some PICs (particularly Tonga, Samoa and Kiribati) have depended heavily on remittances as an income source. These remittances are expected to fall significantly due to the recession that has occurred in New Zealand, Australia and the US. In terms of their food security the beneficiaries of the remittances living in rural areas of Tonga and Samoa, are in a position to adjust by consuming more locally grown traditional food with resulting health and nutrition benefits. For the recipients of remittances living in urban areas and atoll countries, such adjustments are far more difficult. This presents a particular problem for the micro states that already have an exceptionally high level of aggregate food insecurity.

2 Introduction

This Overview Pacific Islands region impact assessment report was prepared by Andrew McGregor with inputs from PIFON members. Detailed country impact assessment reports were also prepared for Fiji and Samoa. The data utilised was largely that which was available up until the end of June 2020.

As of the end of June the actual incidence of COVID-19 infections in Pacific Island Countries (PICs), has been minimal, outside some of the French and US Territories (table 1). Since that time there has been a significant increase of cases in PNG, with 359 positive cases (3 deaths) reported as Aug 20th .

Table 1: Incidence of COVID-19 in PICs as June 30th 2020*

Country	No of COVID-19 reported cases	No of deaths	No of days since the last reported case
PNG	8	0	29
Fiji	18	0	31 (Fiji has now been declared free of the virus)
Kiribati	0		
Samoa	0		
Solomon Islands	0		
Tonga	0		
Tuvalu	0		
Vanuatu	0		

Source: Secretariat of the Pacific Community (SPC), Staff Communications

However, the economic and social impact of the pandemic on the Pacific islands' region has been sudden and large - resulting from the following:

- The cessation of visitor arrivals and the elimination of most jobs in the **tourism** sector, with multiplier linkages to the rest of the economy
- A large fall in the flow of **remittances**
- **A dramatic increase in air freight rates**, undermining the viability of fresh produce export industries
- A marked **deterioration in government finances** and the availability of public sector funding

The flow-on consequences of the pandemic are impacting on agriculture, food security and nutrition. However, the level of impact of these flow on consequences varies significantly between different PICs and areas within those countries. Any regional analysis of agriculture, food security and nutrition need to take into account the great diversity that exists between the PICs. Countries such as Tuvalu (population around 11,000), and PNG (population of some 7.5 million), have little in common other than proximity. In some PICs agriculture is of fundamental importance for food security, livelihoods and economic development. Whereas for other PICs, agriculture is of minor importance and food security is largely dependent on imports. Yet, food security and nutrition are being impacted by the pandemic in all PICs – but in quite different ways. Furthermore, the impact on agriculture and the issues arising differ significantly between the different types of agricultural products that are produced – be they staple foods, export commodities, horticultural, spices or livestock products.

¹ <https://covid19.info.gov.pg/index.php/2020/08/20/12-new-covid-19-cases-reported-in-png-today>

3 An overview of the PICs food security and nutrition situation prior to the pandemic

The Pacific Islands comprise more than 2,000 islands and atolls in 28 countries and territories. The region covers a third of the earth's surface and is home to an estimated 10 million people on islands with a land area of 550,000 km² surrounded by the largest ocean in the world – the Pacific Ocean.



3.1 The dimensions of food security

Food security has four key dimensions: adequate food supply; available food supply; stability of food supply and access to food at the household level. All these dimensions need to be taken into account when considering the impact of a pandemic on any particular country. A country is “food secure” when, as defined by the 1996 World Food Summit, “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”.

In any particular country, agriculture has two key roles in providing food security. These are: 1) to produce food; and, 2) to provide income for people to be able to purchase food. In the PICs the pandemic has impacted more on peoples’ ability to buy nutritious food than the ability produce food. Prior to the pandemic, some PICs were relatively food secure, while others were amongst the least food secure countries in the world, making them particularly vulnerable to disasters - be it a severe climate event or a global health pandemic.

The FAO developed an aggregate measure of a country’s level of food security – the Food Import Capacity Index (FICI). A country’s FICI is the ratio of its food imports to total mercantile exports. The premise on which the FICI is based, is that a country’s food security depends on its ability to both produce and buy food. A country with a FICI greater than 50%, is considered vulnerable in terms of food security. However, a low level of exports can be offset by the inflow of foreign currency through tourism and remittances – which is critically important for some PICs.

With climate change an over-reliance on imported food, the supply of which is externally determined, increases vulnerability – particularly as imported grain products (rice and wheat flour), are likely to be more adversely impacted by climate change than most Pacific island food staples (Taylor et.al. 2016) . The current global pandemic adds to this vulnerability, particularly with respect to the income available to the household to be able to purchase their food.

To facilitate analysis of the impact of external shocks, such as climate change or a global health pandemic, it is appropriate to divide the region into three broad country groupings based on their resource endowments, size and the importance of the agricultural sector. These are:

- Group 1: relatively large PIC of Melanesia (PNG, Fiji, Solomon Islands, New Caledonia and Vanuatu).
- Group 2: middle-sized PICs of Polynesia (Samoa, Tonga and French Polynesia).
- Group 3: land-poor micro-states that are predominantly atolls. (including FSM, Kiribati, Niue, Tokelau, Tuvalu, Wallis and Futuna, Guam, RMI, Nauru, CNMI and Cook Islands).

With all these countries and territories, traditional agroforestry-based farming systems have provided resilience against external shocks and helped to maintain food security (Taylor et.al 2016; McGregor et.al 2008; Thaman 1982). However, over the last 50-years, threats to food security have intensified with the move away from the more resilient agro-ecosystems of the past, and with increasing population and urbanization. Climate change and global pandemics add further to this food security risk, by increasing the vulnerability of food production and decreasing people's ability to purchase nutritious food.

One thing all the PICs have in common is that they are all significant importers of food. However, the means by which this food is paid for varies significantly between countries and is a key determinate of their respective food security and its vulnerability.

PNG's largest foreign exchange earner is unprocessed mineral and petroleum products. While these foreign exchange earnings contribute significantly to government revenue, they are not widely directly distributed through the population, and this limits the contribution of these earnings to peoples to ability to purchase food. Agricultural commodity exports are also a major foreign exchange earner for PNG. However, unlike the mineral sector, these earnings are widely distributed through the population. This being particularly true for coffee, cocoa, and coconuts, which now almost entirely small holder-based industries. Similarly, the other Melanesian countries have significant small holder-based export commodity industries - Solomon Islands (coconut products, cocoa), Vanuatu (coconut products, cocoa and coffee) and Fiji (sugar and to a lesser extent coconut products). Palm oil, largely plantation grown, has also been a major source of foreign exchange for PNG and the Solomon Islands. However, the Solomon Islands has relied heavily on the export of logs from its native forests as a major source of foreign exchange. The direct income distribution impact of these unsustainable exports has been minimal. Fiji also has other significant small holder based high value agricultural product export industries (ginger, turmeric, kava, papaya, eggplant and taro). There some other non-agricultural industries that contribute to foreign exchange earnings in the Melanesian countries – including, canned fish (Solomon Islands and Fiji), garments (Fiji) and biscuits (Fiji) .

² See <https://www.theguardian.com/environment/2020/aug/17/uk-facing-worst-wheat-harvest-since-1980s-national-farmers-union-nfu>

The export of goods from the mid-sized Polynesian countries are considerably less than that of the Melanesian countries, even when allowing for their much smaller size. However, those exports that are made are predominately agricultural products sourced from small holders – which means the earnings are widely distributed. Taro, prior to the incursion of taro leaf flight (TLB) in 1993, was by far Samoa's largest export earner. Recent years have seen some recovery in taro exports thanks to the development of TLB resistant varieties. Other agricultural export products from Samoa now include noni, breadfruit, kava and coconut products. Similarly, for Tonga, squash exports to Japan was the most important export earner and watermelon, noni and kava exports still remain important foreign exchange earners. Excluding marine product exports, the export of non-agricultural exports from the mid-sized Polynesian countries are minimal. For the land-poor micro states agricultural product exports have been miniscule – although Kiribati still exports some copra.

The export of goods, apart from donor assistance, is not the only way a country can generate the foreign exchange necessary to import food. Tourism and remittances from their diaspora play a critical role in this respect for a number of PICs. Both these sources of foreign exchange and income distribution have been severely impacted by the pandemic.

As shown in table 2, the economies of Fiji and Vanuatu are heavily dependent on tourist arrivals. Tourism also makes a substantial contribution to the economies of Samoa and Tonga and a somewhat smaller contribution to the Solomon Islands. It is also important for some of the land poor micro states – notably the Cook Islands, Niue and Palau. The estimates of tourism's contribution to GDP presented could well be an underestimation when the full multiplier impacts on the rest of the economy are taken in account. In case of Fiji, ANZ Research Pacific Insight estimates that tourism directly contributes to 46% of GDP (June 15th 2020).

Table 2: Tourist arrivals and tourism contribution to GDP in PICs*

	2015	2016	2017	2018	2019	Tourism's contribution to GDP in 2019 (%)	Visitor arrivals per head of population
Tourist (visitor) arrivals							
<i>Relatively large Melanesian countries</i>							
PNG	183,000	179,000	139,000	140,000	210,000	0.7%	.02
Fiji	755,000	792,000	843,000	870,000	894,389	14%	1
Solomon Islands	21,600	23,200	25,700	27,900	30,821	4.2%	.05
Vanuatu	9,000	951,00	109,000	116,000	175,393	18.1%	0.6
<i>The mid-sized Polynesian countries</i>							
Samoa	128,000	134,000	146,000	164,000	180,858	N/A	0.6
Tonga	53,800	59,100	62,500	54,000	59,637	5.6%	0.5
<i>The land-poor micro states</i>							
Cook Islands	125,130	146,473	161,362	168,760	171,550	21%	9.8
Kiribati	3,900	5,700	5,800	7,100	7,800	N/A	0.6
Tuvalu	2,400	2,500	2,500	2,700	N/A	N/A	N/A

Source: World Bank Data, and Central Bank Statistics

The flow-on impact of the cessation of tourist arrivals on employment, income distribution and thus in turn food security (people's ability to purchase food), has been large and sudden. Large numbers of people were directly employed in the tourism sector and by the national airlines that service them. For example, a survey conducted by the Vanuatu Dpt. of Tourism and the Tourism Office in April, found a total reduction of 2,077 in full time employment (70% of those that were employed full time in the industry), and 214 in part time employment (33% of those that were employed part time). At that time, the majority (nearly 70%), were initially placed on unpaid leave. A survey conducted by the Samoan Tourism Authority projected job losses in accommodation and support services to be at least 1,560 by the end of June. According to the Fiji Hotel and Tourism Association, as of the end of May, 93% of hotels and resorts had closed. In addition, Fiji Airways, at the end of May, terminated the employment of 758 staff; and in Mid-June Air Terminal Services (ATS) terminated a further 285 staff (Fiji Times May 25th, June 20th). These direct impacts to the tourism sector have rapidly multiplied through the rest of the tourism dependent economies of Fiji, Vanuatu and the Cook Islands. Dialogue Fiji in April 2020, undertook a survey to measure the impact on Fijian businesses and employment and labour markets. Of these, only 4% of the 150 businesses surveyed were actually from the Hotel and Accommodation sector. Of the businesses surveyed, 54% had made redundant more than 50% of their work force.

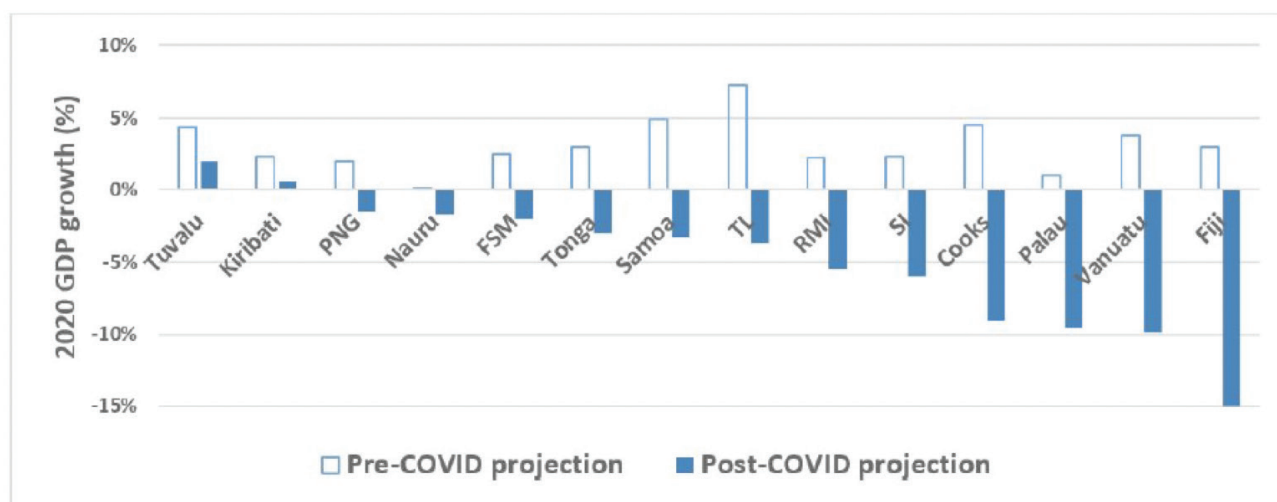
Furthermore, for the workers that had been retained - 40% had reduced their hours. Indications are that the situation will deteriorate further, with the recovery in tourism arrivals expected to be prolonged. Only 33% of the businesses surveyed believed they would only be able to sustain their businesses at the present level of activity for a further 3 months. Thus, job losses are likely to increase and income distribution worsen. The magnitude of these initial total job losses is reflected in the 86,854 applications for FJD 1,000 that was permitted to be withdrawn from their personal Fiji National Provident Fund (FNPF) accounts – from which FJD 49.1 million was paid out.



People lining up outside FNPF Image: Fiji Village

This tourism shock has resulted in Moody's Country Outlook for Fiji being down graded from stable to negative (Fiji Times July 1 p, 15). The devastating impact on the Fijian economy is reflected in economic growth forecasts pre and post the pandemic (figure 1). Prior to the pandemic the economy (GDP) was projected to grow at around 3% in 2020 – while post the pandemic it is projected to decrease by a massive 15%. The next three worst severely impacted economies were those of the tourism dependent economies of Vanuatu, Palau and the Cook Islands – whose economic growth is now projected to fall by around 10%. The least impacted were the atoll countries of Tuvalu and Kiribati, who have virtually no tourists and are projected to still have small positive economic growth in 2020.

Figure 1: Forecast economic growth in the Pacific islands: pre and post COVID*



Source: Howes and Surandrin COVID 19: economic damage and strength in the Pacific (<https://devpolicy.org/covid-19-economic-damage-pacific-20200818>)

³ IFAD, Socio-Economic Impact Assessment on COVID-19 on Agriculture, Food Security and Nutrition - Samoa

Many households in the mid-size Polynesian states depend heavily on family members living abroad as an income source. In Tonga in 2019, the value of remittances was nearly 40% of GDP and for Samoa it was over 15%(table 3). Remittances are also important for the microstates – with Kiribati's remittances in 2019 exceeding 10% of GDP. Fiji and Vanuatu also have quite high remittance transfers – partly due to the seasonal worker schemes and in the case of Fiji, Samoa and Tonga, rugby players abroad. In comparison the people of PNG and the Solomon Islands receive minimal income from remittances

Table 3: The value of remittances in selected PICs*

Remittance inflows (US\$ million)	2015	2016	2017	2018	2019e	Remittances as a share of GDP in 2019
Relatively Large Melanesian Countries						
Fiji	251	269	274	285	288	5.0
Papua New Guinea	4	3	4	4	3	0.0
Solomon Islands	19	20	16	19	19	1.3
Vanuatu	104	81	26	35	35	3.7
The Mid-Sized Polynesian Countries						
Samoa	130	130	136	147	147	16.2
Tonga	150	126	159	183	183	37.6
The Land-poor micro Atoll States						
Kiribati	14	16	18	20	20	10.9
Tuvalu	4	4	4	4	4	9.7

Source: World Bank Commodity Markets Outlook

According to the Report released by the FAO Sub-Regional Office for Pacific (FAO SAP) on June 1st the impact of the decline in remittances due to the pandemic will be greatest in Samoa and Tonga followed by the Marshall Islands, Tuvalu, Kiribati and Fiji. Data released by the Central Bank of Samoa for the 1st Qtr. of 2020 indicated that there is yet to be a fall in the in overall flow of remittances (table 4). What has been clearly apparent has been the marked increase in use of personal mobile devices to pay the bills of family members back home and to top up their phones

Table 4: Quarterly flow of remittances into Samoa by source country (SAT\$ million)

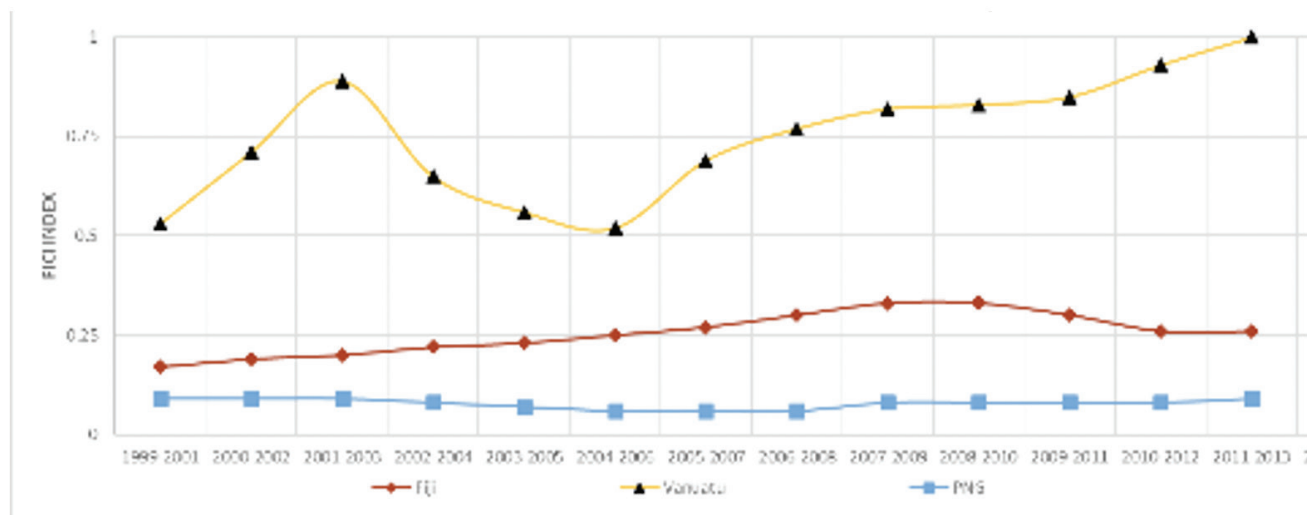
Country	2019				2020
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.
USA	34	19	23	24	25
New Zealand	50	56	56	62	59
Australia	38	35	44	44	34
American Samoa	5	5	6	7	6
Others	7	12	8	6	11
Total	134	128	136	142	135

Source: Central Bank of Samoa, June 2020

3.2 The food security and nutrition situation in relatively large Melanesian countries

In Melanesia there is a solid foundation of food availability through self-sufficient production of staple and other food crops, and also through export earnings generated from agricultural commodities (coffee, palm oil, cocoa and coconut oil). The FICI for Fiji, PNG, and Vanuatu is presented in figure 2.

Figure 2: The FICI for Melanesian countries *



Source: FAO_STAT

PNG has a FICI around 10%, indicating a high level of food security. Yet an estimated 1.5 million people in PNG live in urban centers or rural non-village locations, where they have little or no opportunity to grow food, and have insufficient income with which to purchase adequate quantities of nutritious food (Bourke and Harwood 2009). Many households do not receive the flow-on income benefits from mineral and oil exports, which have been responsible for PNG's positive trade balance. This income is now expected to significantly decline because of the global recession.

According to the FICI, Fiji and Vanuatu have moderate and high food security vulnerability respectively. However, income from tourism in both countries has helped to offset the substantial mercantile deficit and now makes up by far the largest share of their GDP (McGregor et al. 2009). The current pandemic has resulted in a cessation of tourist arrivals and the closure of most hotels. This has caused a large and sudden loss wage of earning jobs throughout most of their respective economies (as briefly described above) - resulting in an immediate and large spike in food insecurity due to loss of income. The decline in formal wage-earning employment will be particularly damaging for Fiji where now around 55% of the population live in urban and peri urban areas.

⁴ Over the period March 18th to June 3rd the following growth by personal mobile devices was reported by the International Organization for Migration "Rapid Assessment of the Socio-Economic Impact of COVID-19 on Labour Mobility in the Pacific Region".

Money transferred by personal mobile devices over the period March 18th to June 3rd

Corridors	Send money/bill payment growth	Mobile top-up growth
Aus/NZ to Fiji	19%	14%
Aus/NZ to Tonga	16%	130%

* <https://publications.iom.int/books/rapid-assessment-socioeconomic-impacts-covid-19-labour-mobility-pacific-region?language=en>

All Group 1 countries have strong domestic staple food production (Bourke and Harwood 2009; McGregor et al. 2009). However, high levels of obesity and non-communicable diseases (NCDs) prevail particularly in urban areas. It is estimated that 77% of deaths in Fiji are caused by NCDs – the estimate for Vanuatu is 70%, Solomon Islands 60% and PNG 44% (Xu et.al 2016). The incidence of diabetes in all the Melanesian countries is high – with vast majority of deaths caused by diabetes attributed to dietary factors (World Bank 2012 p, 3). In Vanuatu, 24% of the adult population has diabetes – with the country ranked as the 6th highest in the world in terms of the incidence of diabetes (Xu et.al 2016; International Diabetes Federation 2013). In addition, all the Melanesian countries suffer from significant levels of malnutrition, as shown by significant levels of stunting in children under five; and micronutrient deficiencies such as iron, vitamin A and iodine (SPC 2011).

Group 1 countries, with their substantial land resources and relatively strong agricultural base, have significant potential to enhance their food security, both through self-sufficiency and income generation. This provides income to farmers and those along the value chain to purchase food products - be that food locally grown or imported. The impact of the COVID-19 pandemic on these opportunities is discussed in some detail in Section 3.



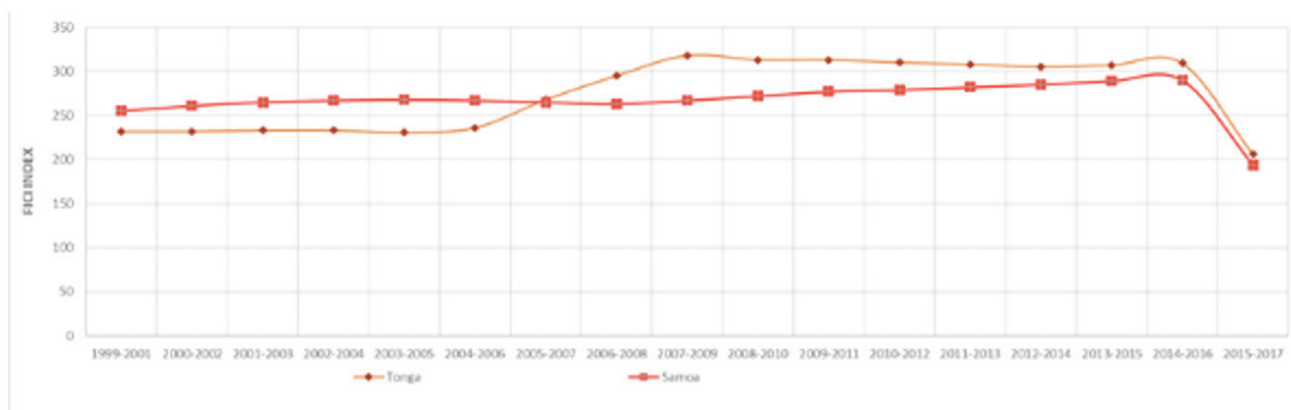
The Melanesian countries, with their land resources and relatively strong agricultural base, have the potential to enhance their food security both through self-sufficiency and income generation

3.3 Food security in the middle-sized Polynesian countries

Both Samoa and Tonga have FICIs of around 200% - indicating a high level of aggregate food security vulnerability (figure 3). However, these countries have been able to purchase sufficient imported food required with foreign exchange provided by remittances from their diaspora and tourism. Samoa's remittances in 2019 was USD 147 million (USD 747/capita), while Tonga's remittances for that year was USD 183 million (USD 324/capita) (World Bank World Bank; SPC Prism Population Statistics).

Remittances have grown steadily over the last 20 years resulting in increased consumption of imported food. This imported food generally has higher levels of sugar, salt and fats and is linked to the increased incidence of obesity and diabetes in both countries where around 70% of deaths are attributed to NCDs of which most of these are attributed to dietary risks (Xu et.al 2016; World Bank 2016).

Figure 3: The FICI for Tonga and Samoa



Source: FAO_STAT

These remittances are expected to fall substantially as a result of the job losses of the diaspora – although data for Samoa as yet does not show there has not been a significant decline in remittances. Any fall in remittances will compound the impact of the cessation of tourist arrivals for an extended period as pointed out by the FAO SAP Report: “A drop-in remittances could affect the purchasing power of families relying on remittances and could decrease the demand for food. This may also increase demand for cheap and unhealthy imported food and could increase food related non-communicable diseases (NCDs)”. Whether a decline in remittances will result in an increase in local food consumption remains to be seen. However, both Samoa and Tonga have a strong traditional subsistence base that has shown it can adjust in a crisis. This was clearly demonstrated by Samoa, with its response to the collapse of taro production from taro leaf blight in 1993. Paulson and Rogers (1997) described the adjustments that took place in the agricultural sector after TLB destroyed the taro crop, the main food crop and largest export earner:

By June 1995, two years after the taro leaf blight first appeared in Western Samoa, the taro zone in the two main villages had been almost completely abandoned and was under fallow vegetation. Most households had redirected their efforts to the area nearest the village. This area of old gardens, secondary growth and senile coconuts had been transformed into well-tended mixed gardens producing a variety of food and tree crops. All gardens had several varieties of banana and at least two varieties of ta'amu (Alocasia macrorrhiza). Most had yams, cassava, and several varieties of breadfruit, and a variety of minor crops and useful plants. Most farmers were intercropping coconut and cocoa seedlings in the mixed gardens. There was much experimentation, with land managers visiting each other's gardens for ideas (p. 177).

The strength of Samoa's traditional farming system did much to avert a catastrophic situation when the dominant food crop was lost. In the mid-19th century, blight destroyed the Irish potato crop and caused the Great Irish Famine, and in Bougainville starvation accompanied the arrival of TLB just after WW2. (Taylor et.al. p, 208). This indicates that agriculture in Samoa and Tonga is capable of providing a food security buffer when needed. In addition, most people living in Samoa and Tonga's urban areas maintain close links to their rural villages which they regularly visit. It is far less common for people living in the urban areas of Melanesia – particularly PNG and Fiji.



Intensive production of traditional root crops in Tonga. Photo: Richard Markham

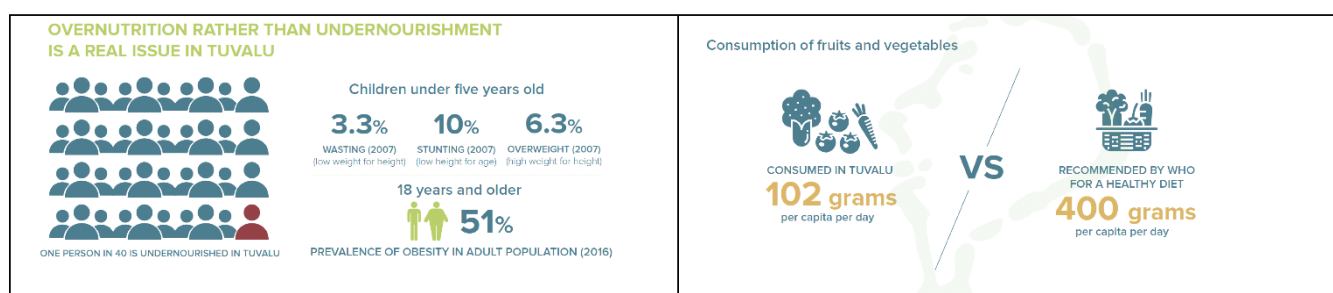


Both Samoa and Tonga have a strong traditional subsistence base that has shown it can adjust in a crisis

3.4 Food security in the land poor micro-states

These countries have a low capacity to produce food domestically and almost all food is imported. They also have a low capacity to generate income through exports. Consequently, the FICIs for the atoll countries are very high, suggesting that these countries are amongst the most food insecure countries in the world. For example, the average FICI for Kiribati in the period 2008–2010 was 750%. However, they have largely been able to offset the difference between the value of exports and food imports through a combination of remittances, donor transfers, and, for those in widely dispersed atolls, through the sale of fishing rights.

Access to enough food has generally not been an issue in these microstates. As pointed out in the recent FAO Sub Regional Office for the Pacific in the recent Food Security Profile for Tuvalu it is “over nutrition rather than undernutrition that is the real issue” (FAO SAPA 2020). Average dietary energy consumption was found to be 2,900 kcal/capita/day (which is significantly above the minimum requirement) – with only 1 person in 40 being under nourished in terms of calories consumed. However, the diet is not balanced with a contribution of fats to the total dietary energy consumed close to the upper limit of the recommended WHO/FAO/UN norms for a healthy diet. Imported cereals and sugar alone contribute to nearly half the total dietary energy consumed. In contrast, short falls in fruit and vegetable consumption are particularly pronounced in atoll countries. In Tuvalu the average daily consumption of fruit and vegetables was found to be only 102 gms compared with 400 gms recommended by WHO for a healthy diet. As a consequence, obesity levels in the atoll micro states are exceptionally high. In Tuvalu, 50% of the population over the age of 18 were found to be obese and even higher obesity levels are reported in the 2016 Household Income and Expenditure Survey (figure 4).



Source: FAO_SAPA 2020

The outer island communities of the micro states are more involved in self-sufficiency food production, with the marine sector being far more important than agriculture. Swamp taro (*Cyrtosperma merkusii*), coconuts and breadfruit are important in the outer islands of most atoll countries. However, the Tuvalu HIES surprisingly shows that obesity levels are even marginally higher (although not statistically different), in the outer islands than in urban Tuvalu (Funafuti) (Figure 4). This indicates that the health of the entire population of atoll countries is being adversely impacted by the high levels of consumption of imported food and inadequate local food production.



Swap taro, coconuts and breadfruit in Tuvalu; most important food security crops grown in the atoll countries

Figure 4: Tuvalu obesity levels from the 2016 Household Income and Expenditure Survey

By strata, the results differ as the proportion of obese and severe obese is higher in rural Tuvalu (Figure 7).

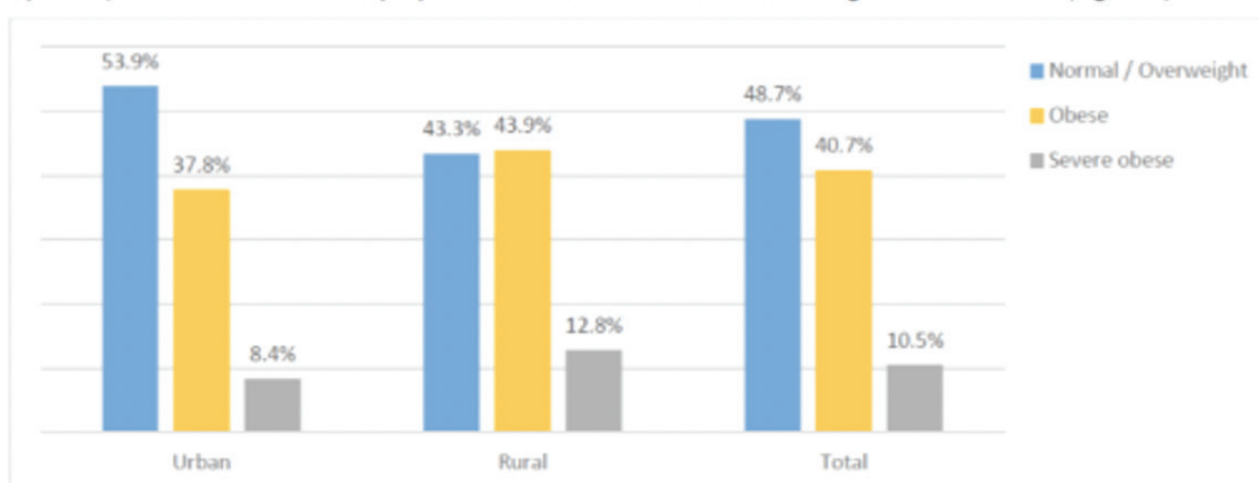


Figure 7: Distribution of the population aged 15+, by BMI category and strata

By age group, obesity is more important between 25 and 64 years old. Within those age groups on average more than 60 percent of the population is obese with a peak between 45 and 49 years old (76 percent of obesity included 18 percent of severe obesity).

These atoll micro states, unlike their Polynesian neighbours, have limited scope to expand their meagre exports and face major constraints in trying to adjust domestic food production as was done by Samoa in the early 1990s, when faced with the taro leaf blight crisis. Thus, they now have to deal with a further deterioration in their already precarious food security/nutrition situation if the pandemic leads to a significant decline in remittances, unless this is offset by international aid and payments for fishing access. However, there is now the prospect that in the future fishing access payments will fall due to a climate driven (GHG emissions) redistribution of tuna stocks (SPC 2019).

Tuvalu, in recognition of the severity of dealing with the combined challenges of climate change and an international pandemic, now plans to embark on a major coconut replanting program, based on agroforestry with a focus on producing food for the domestic market.

4 The expected impact of the pandemic on PIC agricultural products

The agricultural products produced by the PICs are broadly divided into the following broad categories:

- Staple food crops
- Export commodities
- Horticultural, spice products and stimulants
- Livestock products

For each of these product groups the impact of the pandemic is considered in terms of its impact on production, markets and marketing.

4.1 Staple food crops

The order of importance of locally produced staple food crops in terms of total calories supplied are: sweet potato, banana, cassava, taro, cocoyam, swamp taro, giant taro and yams. Coconuts and breadfruit are also important staples. Highly nutritious *Abelmoschus manihot* (aibika, bele, island cabbage, slippery cabbage) is widely consumed throughout the region.

The main staple food crops produced in the PICs – the production of which the pandemic has had little or no direct impact.



BANANA
MUSA SPECIES
PNG



CASSAVA
MANIHOT ESCULENTA
TANNA, VANUATU



TARO
COLOCASIA ESULENTA
PALAU



COCOYAM
XANTHOSOMA SAGITTIFOLIUM
SANTO, VANUATU



GIANT TARO
ALOCASIA MARCORRHIZA
SAMOA



“WILD YAM”
DIOSCOREA SPP.
MALEKULA, VANUATU



COCONUTS + BREADFRUIT

COCOS NUCIFERA + ARTOCARPUS ALTILLIS
FUNAFUTI, TUVALU



ISLAND CABBAGE

ABELMOSCHUS MANIHOT
SANTO, VANUATU

The production of food staples is the main agricultural activity, for both household self-sufficiency and income generation. Thus, factors that impact on staple foods will have a profound influence on livelihoods and the economic wellbeing in the region.

In the Pacific islands there is no longer a clear distinction between self-sufficiency and cash crops. Purely subsistence gardening is now rare, and confined to remote Melanesian custom villages. Self-sufficiency farming is, however, common, particularly in Melanesia, although some traditional crops are also important commercial crops, such as taro and kava. Similarly, no clear distinction exists between self-sufficiency food crops and some commercial tree crops. Coconuts contribute significantly to subsistence in all PICs, and, in the form of copra and copra oil, have historically been the most important export product. Coconut products still remain an important commercial tree crop for some PICs – for exports and increasingly for the domestic market. Breadfruit is also an important starchy staple crop and is now sold on local markets in most countries and is now being exported by Fiji and Samoa. Climate change resilient breadfruit is identified as “a crop of the future” – with breadfruit flour being a substitute for imported rice and wheat flour (McGregor and Stice 2018).

The value and contribution of staple food production on the economies of Melanesia and the mid-size countries of Polynesia is large and often not fully recognised and their degree of resilience underestimated. For example, for Fiji, the average annual taro production over the period 2010 – 2015 was 61,000 tonnes, of which an average of only around 9,000 tonnes was exported (Fiji Taro Industry Plan Min of Agriculture 2017). To put these figures into perspective, the value of taro production is more than the value of rice consumed and makes a direct contribution to livelihoods comparable to that of sugar.

4.1.1 Expected impact of the pandemic on the production of staple food crops

A combination of factors will impact on the quantity staple food produced. These include: climate/weather/seasonality; input availability; and the prices at which production can be sold.

A pandemic has no direct impact on weather and seasonality. However, a severe tropical (TC Harold) in March 2020, coinciding with the pandemic, caused considerable damage to staple food crops in parts of the Solomon Islands, Vanuatu, Fiji and Tonga and which had an immediate impact on staple food production. A pandemic can significantly impact on agricultural production through its effect on input supply (labour supply, planting material, fertilizers etc.).

This has certainly been the case for COVID-19 in some other parts of the world. However, this has not been the case in the Pacific islands – particularly for staple food crops.

For the small holder production systems that prevails for staple food crops, it is labour, apart from land, that is by far the most important production input. Most of this labour is supplied by the farm household itself. Many rural locations have faced a labour shortage due to outmigration to urban areas and people working in tourism. In addition, in some countries (Vanuatu, Fiji and Samoa) seasonal worker schemes in Australia and New Zealand have drawn some of the most productive young labour from rural areas. There were some 14,400 seasonal agricultural workers from the Pacific islands working in New Zealand over the 2019–2020 period .

In some parts of the world, COVID 19 induced lock downs, travel restrictions and social distancing have significantly impacted on farm labour supply . This generally has not been the case in the PICs. If anything, there has been an increase in labour supply with some of the people who no longer have wage employment returning to their home villages. There are also the young farmers who provide their labour to the seasonal worker scheme, now having to stay home and are able to work on their family land.

Offsetting the likely positive impact of having more family labour to work on the farm, is the substantial negative impact of increased crop theft. Such theft was already prevalent in Fiji and Vanuatu – particularly for kava. Anecdotal evidence for Fiji, suggests with the large surge in unemployment that theft has already significantly increased for root crops, fruit and vegetables. After doing all the hard work upfront having your crop stolen just prior to reaping the rewards from harvesting is particularly disheartening and discourages further planting. The Fiji case study reports increasing land disputes as people return to their home villages and start farming. There is also the issue of adopting unsustainable cropping practices by the “new” farmers from town.

The availability of planting material is often a constraint to staple food production, which has recently been adversely impacted in those countries affected by TC Harold. However, the availability of planting material is not expected to be further negatively impacted by the current pandemic. The situation could in fact be improved somewhat by the planting material distribution programs now being initiated by the Ministries of Agriculture in countries such as Fiji. There are also a number of NGOs actively involved in such programs – including Rural Integrated Enterprises & Development (FRIEND) ,and Teitei Taveuni in Fiji, Kastom Gaden Association (KGA) in the Solomon Islands and the Farm Support Association in Vanuatu.

The small holder farmers who produce staple food crops in the PICs use very little other purchased inputs. Root crop farmers in Fiji in close proximity to poultry farms use large quantities of poultry manure. However, there is still more than sufficient supply still available.

4.1.2 Expected impact of the pandemic on markets for staple food crops

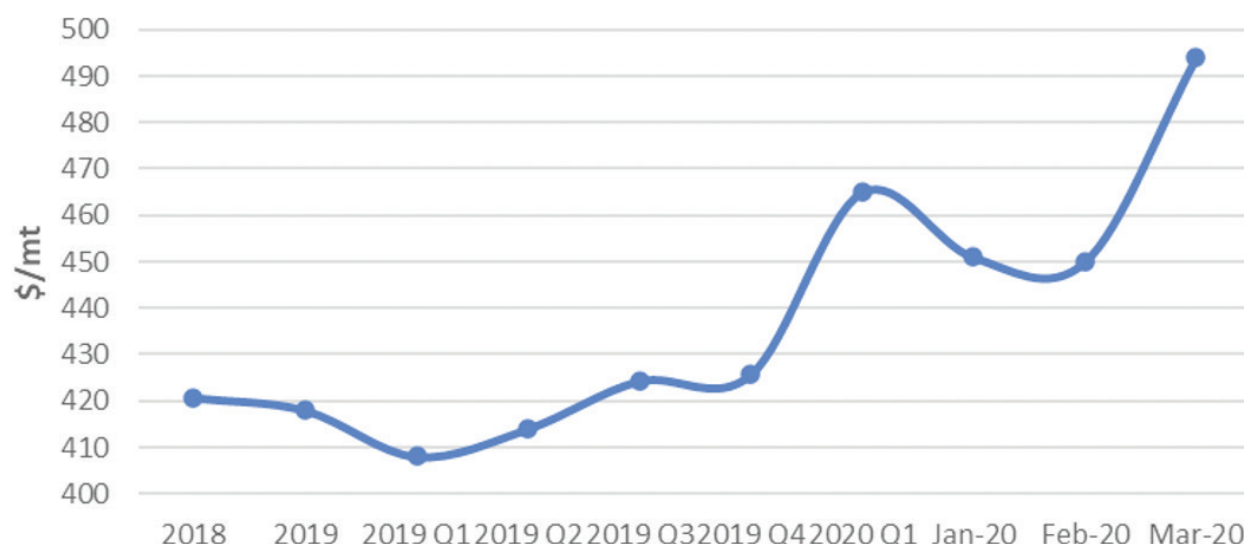
As indicated above, the production of staple food seems unlikely to be severely impacted by the pandemic at least in the short term to medium term. If anything there is likely to be an increase in the supply of root crops such as cassava with the increased planting by households in urban and peri urban areas for home consumption. However, the impact on market demand is likely to be considerable – driven by a sharp drop in wage employment and, for some countries, a significant fall in the cash available through remittances. Staple food crops, such as cassava, can expect to have a low-income elasticity of demand – the fall in demand will be proportionally less than the fall in income, other things being equal. However, a key variable impacting the demand for the domestically grown staples is the price of substitute imported food staples – particularly rice. In this respect it is of note that the average world price for rice in March 2020 – was significantly above (around 20%) the average world price in 2018 and 2019 (almost 20% above) (figure 6). If this continues it will increase the demand for domestically grown staples, which will be beneficial to farmers but will have significant negative food security implications for the urban poor – whose numbers have increased significantly due to the pandemic.

⁵ International Organization for Migration <https://publications.iom.int/books/rapid-assessment-socioeconomic-impacts-covid-19-labour-mobility-pacific-region?language=en>

⁶ A Shri Lankan virgin coconut oil (VCO) trader currently situated in Fiji reports: *I still in contact & do some freelance sales with a friend of mine, who has a coconut producing plant in Sri Lanka. My clients placed orders to me, but, couldn't supply on time as there was curfew imposed in the country. But, later we appealed for special permission from the government & considering export revenue we were allowed to operate. Now, everything is back to normal in Sri Lanka and we export as usual (Dileepana/Ratnayake per.com. 13/8/2020)*

⁷ The percentage change in consumption resulting from a percentage change in income

Figure 5: International rice prices 2018 – 2020 (1st Qtr.)



Source: World Bank Commodities Market Outlook

Table 5 below compares the monthly average prices at the Suva and Lautoka markets for taro (dalo) and cassava in February, March and April between 2019 and 2020. In the Suva market, the price of root crops in March were significantly lower than they were in January and February. Insufficient time has elapsed for there to have been a significant increase in supply as a result of the pandemic, since it takes around 9 months from the time cassava is planted until it can be harvested. It can be assumed that the price fall is attributed entirely to a decline in demand. However, later in the year, a significant increase in supply is expected particularly for cassava given the increased planting that is occurring. In contrast, at the Lautoka market located in western Viti Levu, the prices of root crops were somewhat higher in March than they were in January and February and significantly higher than they were for the same months in 2019. This price difference between Suva and Lautoka is likely attributed to TC Harold that did not impact eastern Viti Levu, where Suva is located.

Table 5: Suva and Lautoka Markets: A comparison of monthly average prices (Feb, March and April 2019, 2020) for dalo and cassava (FJD/kg)*

		Feb		March		April		
		2019	2020	2019	2020	2019	2020	
	Suva Market							
	Dalo (<i>Tausala</i>)	2.0	1.5	2.0	2.22	n.a	0.67	
	Dalo (other)	3.4	2.0	3.4	2.93	n.a	0.93	
	Cassava	2.8	1.1	2.83	3.33	n.a	1.0	
	Lautoka Market							
	Dalo (<i>Tausala</i>)	5.0	7.1	4.2	6.3	4.7	6.8	
	Dalo (other)	5.0	5.0	5.1	6.2	4.9	4.7	
	Cassava	3.3	5.8	4.1	5.2	3.5	5.6	
	* Source: Economic Stats Div, Fiji Min Agriculture							

In Samoa, as of March, there had not been significant change in the prices of the main food staples (taro, coconuts and bananas) at Apia's Fugalei market (table 6). An informal survey of the Port Vila market by the Farm Support Association (FSA) in the first week of June concluded that there had not been a significant change in prices – however, there had been some decrease in supply which had been matched by a fall in demand (per, com June). Dr John Moxon from the Cocoa Board of PNG reports that “fresh produce in the East New Britain (ENBP) is still plentiful and prices have not changed much” (per com March).

Table 3: Prices for locally grown food staples in Samoa's main Apia market (Feb 2019 compared with Feb and March 2020)

Prices at market or retail	February 2019 (benchmark)	February 2020	March 2020	Unit
Commodity	Avg price (WST)			
Coconut	\$0.95	\$0.89	\$0.91	Kg
Taro	\$2.43	\$2.41	\$2.39	Kg
Banana	\$0.93	\$1.11	\$1.06	Kg
Source: SBS Local Market data February 2019 , February 2020 , March 2020 ; SBS Consumer Price Index February 2019 , February 2020 , March 2020				

Overtime, due to climate change, it is predicted that relative comparative advantages will shift in favour of domestically grown staples (cassava, taro and breadfruit), compared with imported grains (rice and wheat flour) due to their greater resilience (Taylor et.al. 2018 Chapter 9). The current pandemic could be expected to further increase this comparative advantage of traditional staples compared with imported grains. This will provide a further opportunity for Pacific island farmers, bringing overall health and nutritional benefits to the community at large.

Samoa and Fiji have developed significant export markets for taro in New Zealand and, to a lesser extent, Australia. These exports have largely been to the Samoan diaspora and other Pacific islanders. The demand from this relatively low-income group could be expected to be severely impacted by the recession in both countries and increased transportation costs when airfreight is involved in the case of Australia. However, contrary to expectations, it is of note that the “farm gate” price for tausala taro, that is exported to New Zealand, rose to \$2.20/kg in June – up from \$1.25 earlier in the year (per. com the Tutu Rural Training Centre on Taveuni).

4.1.3 Expected impacts on the marketing of staple food crops

In some PICs (Fiji and PNG), initially, there was an impact on the marketing of food staples due to urban areas being closed off due to the pandemic. Suva and Lautoka were closed for several weeks in April. During this period, inter-island shipping was also terminated. These restrictions have now been lifted and fresh produce marketing has largely returned to normal. However, one significant development has been the proliferation of road side stalls – often involving farmers selling directly to consumers. In PNG the lock down period was even more severe with access roading, interisland shipping and urban markets closed.

Deteriorating roading infrastructure in some PICs, particularly in PNG, poses a marketing constraint for fresh produce, including food staples. Prior to the pandemic there was insufficient public sector funding to adequately maintain roads. The pandemic is now having an unprecedented impact on government finances, which can in turn be expected to have substantial flow on implications for such things as the maintenance and upgrading of rural roading systems. This will impact negatively on the marketing of food staples and other agricultural products.

Fiji has had modest trade in the exporting of fresh taro to the Australian market. Due to Australian quarantine requirements, this taro must have its tops and “eyes” removed, which means it becomes quite perishable and must be air-freighted. The limited airfreight capacity now available and its substantially higher cost seriously threatens the viability of these exports – which is unlikely to be restored until reasonable tourist flows are re-established.



MUNICIPAL MARKETS THROUGHOUT THE REGION HAVE RETURNED TO NORMAL SINCE THE LOCKDOWN ENDED



ONE OF THE MANY ROAD SIDE STALLS THAT EMERGED IN AND AROUND SUVA AND NADI, FIJI

4.2 Export commodities

The main export commodities for the region are coconut products, coffee, cocoa, palm oil and sugar. Export commodities are largely only relevant to the Melanesian countries – although coconut products are exported in small volumes by other PICs. All these commodity industries, with the exception of palm oil, are now dominantly small holder based. This means that they make a larger contribution to food security through their wide distribution of the export income that is earned. For example, currently in PNG, more than 50% of rural households generate income along the coffee value chain. While most of these households will grow sweet potatoes for household consumption, the income generated from coffee enables them to source other essential food for the household be it locally grown or imported.



CUTTING COPRA ON ESPIRITU
SANTO VANUATU



DRYING COFFEE
PNG HIGHLANDS



SMALL HOLDER COCOA PRODUCER
SOLOMON ISLANDS

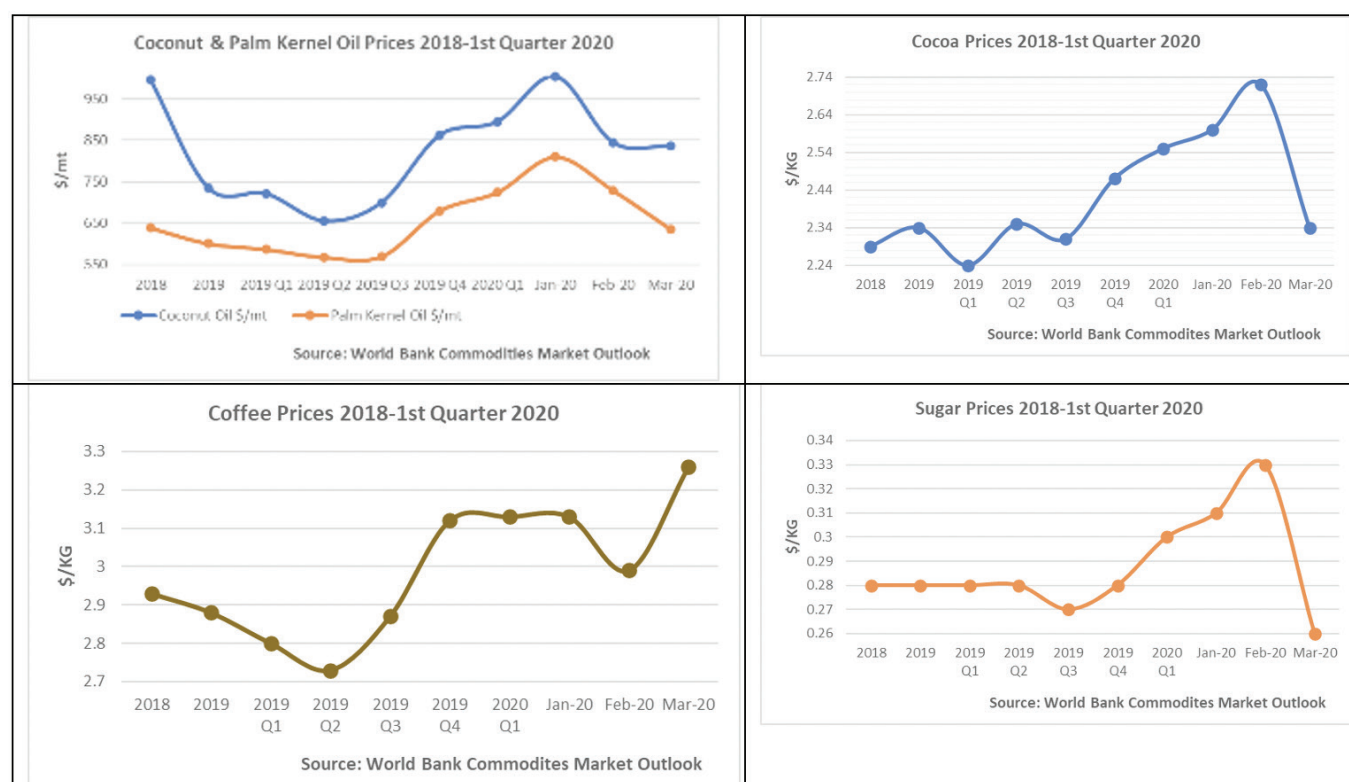
4.2.1 Expected impact of the pandemic on production of export commodities

Labour supply, apart from the impact of weather/climate change and pest and diseases, is the main determinate of on-farm production of export commodities. The availability of labour has become an increasing constraint for commodity export industries in some locations. Given the predominately small holder structures of these PIC export commodity industries, most labour is now supplied by the farm household. The Fiji sugar industry is an exception, where outside labour is hired during the cane harvesting season, because insufficient labour is available from aging households. The COVID-19 pandemic has not adversely impacted on the labour supply situation for PIC export commodity industries. For some export commodity industries, the current pandemic has increased the availability of labour. The Fiji Sugar Corporation, for example, is reporting a significant increase in the number of people registering as cane cutters for the forthcoming harvesting season (Fiji Times May 21). This increase in labour supply has largely come from people who have lost their jobs in urban areas and the tourist sector or from those workers who can no longer participate in seasonal labour schemes. Similarly, people returning to their villages in Fiji's main coconut growing province of Cakaudrove, have become involved in copra cutting where there has been a chronic shortage of labour for decades.

4.2.2 Expected impact of the pandemic on markets for export commodities

The Pacific islands are price takers on international commodity markets. It might have been expected that a global pandemic would have led to a significant reduction in international commodities prices due to a contraction in demand. However, to date, this has not been the case as shown below for the world prices of coconut oil, palm kernel oil, coffee, and cocoa (figure 6). Arabica coffee prices have even shown a marked price increase in recent months. To what extent the increase in coffee prices is due to the pandemic is unclear. However, it is of note that Brazil, which is the world's largest coffee exporter, has been severely directly impacted by COVID -19. Sugar is one major international commodity that has experienced a major decline in prices since the beginning of 2020 – with the average world price falling from 0.33 USD/kg in February to 0.26USD/kg in March, and is below the average price of 2018 and 2019. It is of note that China is the world's largest sugar importer and Brazil is the largest exporter – thus offsetting supply and demand impacts to be expected. If world sugar prices remain at this lower level it has serious implications for Fiji. With the expiration of the EU Lome Sugar Agreement, Fiji now sells all its sugar on the world market, and the industry is already heavily subsidized. The Fiji 2021 National Budget announced that the minimum guaranteed sugar cane price will be reduced from \$F85/tonne to \$F70/tonne.

Figure 6: International Commodity Prices for Coconut Oil, Palm Kernel Oil, Cocoa, Coffee and Sugar



In the case of cocoa, as noted by Dr John Moxon (Productive Partnerships in Agriculture Project, PNG Cocoa Board): “Cocoa prices remain quite good and steady. Farmers are harvesting and selling cocoa without too much trouble” (per. Com. April 30th 2020). The International Cocoa Organization (ICCO) released at the end of May their revised 2019/20 forecasts for global cocoa production and stocks. These show a less than 1% decrease on their earlier forecast – with global cocoa production in the 2019/20 being approximately the same as 2018/19.

With coconut oil, recent years have seen a shifting of emphasis in some PICs from export, to local markets. For virgin coconut oil (VCO), it became increasingly difficult to compete with the industrial scale production from the Philippines and Sri Lanka on export market and is now largely being sold to tourists as a “suit case” export (McGregor and Sheehy 2017). The cessation of tourist arrivals has been disastrous for these VCO producers. In Fiji, the three main VCO producers, Coconut Products of Fiji, Fiji Agro Marketing and Banaban (Rabi Island) VCO have closed their VCO operations. Food grade copra oil in Fiji, Samoa and the Solomon Islands, has in recent years been promoted to the wider local market as a substitute for imported vegetable oils (McGregor and Pelomo 2018). The pandemic has had no direct impact this market.

It remains too early to predict what will be the longer-term impact of the pandemic on international agriculture commodity prices. Much will depend on the length and depth of the global recession and the extent that the production of major producers is impacted.

4.2.3 Expected impact of pandemic on the marketing of export commodities

The Pacific islands are price takers on international commodity markets. It might have been expected that a global pandemic would impact the value chain for export commodities, which involves getting product from the farm to a more centralized processing/consolidation facility and then to a port for export. The quality of the transportation links and their cost are the key to the success of these export value chains. Commodity exports depend entirely on sea freight to reach their markets. Sea freight, unlike air freight, has not as yet been severely impacted by the pandemic. In PNG lockdowns with road closures early in the pandemic severely restricted the flow of products from the farm to processing/consolidation facilities and then on to the port. As Trevor Clarke (ACIAR) reports from the PNG Highlands: “during the lockdown it was hard to get coffee to roast due to the unavailability of transport” (Per Com May 2020). This is, however, no longer a problem but deteriorating road quality remains a serious issue, for which there will now be less government revenue available.

4.3 Horticulture products

Traditional Pacific Island horticultural farming systems include a range of staples, fruit, vegetables, spice and stimulant products. The traditional horticultural staple food crops were covered in 3.1 above. The focus of this section is on commercially important (high-value) horticultural crops. These have been divided into three broad categories: fruit vegetables and floriculture products; spices; and, stimulants.



(L - R) SUNRISE SOLO PAPAYA PRODUCTION IN THE SIGATOKA VALLEY FIJI, CABBAGE AND ONION PRODUCTION IN THE PNG HIGHLANDS, PINEAPPLES GROWN ON SAVAII, SAMOA, FLORICULTURE GROWERS FROM THE PNG WESTERN HIGHLANDS, BASIL PRODUCTION IN FIJI

In some PICs highly suitable agro-ecological conditions can be found for the production of a range of fruit, vegetable and floriculture crops. The highlands of PNG and western Viti Levu in Fiji are examples of such locations. The export of horticultural products and sales to urban areas has often been identified as the agricultural activity with the best growth prospects (McGregor 2007). New Zealand, Australia and the west coast of the United States offer a significant market for a range of horticultural products. However, actual export performance has been disappointing, with horticultural exports still only a small fraction of traditional commodity exports. There were indications that this situation was starting to change. In Fiji, for example, smallholder horticulture was becoming (prior to pandemic) the fastest growing agricultural sector. Fiji has a significant papaya export industry with considerable scope for its expansion identified. Tonga exports watermelons and New Caledonia, Samoa and Vanuatu export small quantities of Tahitian limes during the New Zealand offseason. In all the PICs, with the exception of the micro-states, domestic fruit and vegetables contribute significantly to food and nutrition security. Tourism has provided a major market for Fiji's tropical fruit – with papaya sales to hotels being more than double the volume that was being exported (FACT 2009).

There are virtually no exports of floriculture products from the PICs – despite the significant opportunities identified. Also, surprisingly, the tourist sector is not a significant buyer of floriculture products in the Pacific – in contrast to the situation found in Hawaii. However, there is quite significant small holder flower production in most PICs. These flowers are usually grown by women in urban and peri urban areas and sold in local markets. This provides an important source of supplementary income for households and thus are a source of food security – a fact that is often not recognized by policy makers.

4.3.2 Spices



PACKING CRYSTALIZED GINGER FOR EXPORT
FIJI



VANILLA CURING TRAINING
TANNA VANUATU

Spices are often promoted to diversify agricultural exports and rural income in PICs. There have been some notable successes — vanilla in PNG, Tonga and Vanuatu and ginger and turmeric in Fiji. These spice crops are entirely small holder based and in the case of vanilla and turmeric, are usually produced in remote locations – for example East Sepik for vanilla in PNG and inland Viti Levu for turmeric in Fiji. Spice products from the Pacific are mainly exported – although there are some sales to tourists, particularly in Vanuatu.

4.3.3 Stimulates



KAVA BEING DRIED IN NATEWA BAY, FIJI



BETEL NUT WHOLESALE MARKET IN PNG

Two major traditional stimulant crops grown in the Pacific islands are kava and betel nut. Kava is grown in Vanuatu, Fiji, FSM, Tonga and Samoa, and betel nut grown in PNG, Palau, FSM, and Solomon Islands. These two crops contribute significantly to rural livelihoods. In PNG, betel nut consumption distributes income from the coffee-growing areas in the highlands, mining enclaves and urban areas to growers located in lowlands and at intermediate altitudes. The economic impact of this income distribution is often under-estimated. Bourke and Harwood (2009) estimated that the sales of betel nut and betel pepper generated the equivalent of around USD 10 million in annual incomes for rural villagers over the period 1990–1995. This represented 10% of the income generated from agriculture production by village farmers. Since then the income earned from betel nut sales has increased significantly, particularly with sales to highland areas.

⁸ Over the period 2016 -18 horticulture products made up 5% of Fiji agricultural exports (which included water which made up 28%) (World Food Program, Pacific Island Macro Analysis)

The last few years have seen a major escalation in kava prices – due to both supply and demand factors. For Fiji and Vanuatu, kava has become the major commercial agriculture industry - with sales mainly to domestic markets, but with growing exports. For Vanuatu, kava provides the main mechanism for distributing income from the urban centres to the outer islands. In Fiji, kava has, for many years, enabled income to be generated in the cane growing and urban areas and by tourism and distributed this to the outer islands and the interior of the main islands. Thus, by distributing income to rural areas it has played a critical food security role.

4.3.4 Expected impact of the pandemic on production

Fruit, vegetables and floriculture products

Fruit, vegetable and floriculture production in the Pacific islands tends to be highly labour intensive with this labour largely supplied by the farm household itself. Throughout the Pacific, as discussed above, this labour has been largely unaffected by the pandemic and in some locations, there has been an increase in labour availability. These horticultural products tend to require more purchased inputs than export commodities in the form of seedlings, fertilizer etc. In Fiji there is now a shortage of fruit and vegetable planting material due to a sharp increase in demand from home gardeners in urban and peri-urban areas and from the Ministry of Agriculture (per.com Sant Kumar BulaAgro). Also, in March, severe Tropical Cyclone Harold coincided with the pandemic.

The cyclone did major damage in the Sigatoka Valley - which is Fiji's main fruit and vegetable growing area, which supplies both urban and export markets. However, by mid-June there was an abundant supply of short-term vegetable crops such as Chinese cabbage and long beans resulting in a sharp fall in market prices.



BULA AGRO'S TEL-A-WOMAN PROGRAMME, IN NADI FIJI IN MAY 2020



AN ABUNDANT SUPPLY OF CHINESE CABBAGE IN NAUSORI MARKET FIJI IN JUNE 2020

Spices

With the exception of ginger, labour is virtually the only input used in spice production in the PICs. This labour is largely supplied by the farm household – with some additional labour being secured from households in the surrounding area when required. Thus, again no negative impact from the pandemic. In the case of turmeric, it is “wild” harvest – thus, there are also minimal labour input requirements. For ginger large quantities of poultry mature are required at the time of planting, when no lock down restrictions are expected to be in place. Thus, for spice products in the Pacific islands, the pandemic is expected to have minimal, if any, impact on production – and it could possibly be positive due to increased labour availability.

Stimulant crops

The only significant input into kava and betel nut production, apart from land, is labour. Until fairly recently, this labour was almost entirely supplied by the farm household. However, with the price boom there has been a significant expansion in the area planted to kava. In some areas of Fiji, such as Natewa Bay on Vanua Levu, it has been necessary to bring in outside labour – mainly workers that previously involved in the sugar cane cutting, creating further labour shortages in that sector. The pandemic is not expected to have any negative impact on labour supply for kava – if anything, in Fiji and Vanuatu, it could be expected to increase labour availability.

However, a significant, indirect negative impact of the pandemic on production is likely to be through the increase in theft. Due to the exceptionally high market prices now received for kava, theft in some areas of Fiji and Vanuatu was already high - creating a disincentive for some households to plant kava. With the sudden and substantial decrease in wage employment the incidence of theft is expected to increase.

4.3.5 The expected impact of the pandemic on horticultural product markets

Fruit vegetables and floriculture products

Local markets

Fruit, vegetables and floriculture products can be expected to have a higher income elasticity than that of staple food crops. Thus, price significant price falls would be expected given the large loss of jobs in urban and tourism areas and a fall in remittances. In the case of Fiji, urban market produce prices are reported to have started to fall in June – particularly in those locations most severely impacted by the collapse of tourism such as Sigatoka (Fiji Times June 11 pp 4-5). This price decline is seen to be largely demand driven with people buying less fresh local produce – although there has also been a marked increase in the supply of short-term vegetable crops such as Chinese cabbage. There has also been a sharp fall in the price of some fruit, such as pineapples, for which significant volumes were previously sold to the tourism sector. For example, Pacific Produce Ltd, based on Taveuni, was one of the largest suppliers of pineapples to hotels selling around 250 tonnes of pineapples annually in the Western Division (Per Com Peter Kaeger June 11th). This market has now entirely closed, with all the pineapples, now being redirected to the local markets on Viti Levu. Vanua Levu's largest pineapple producer, has found himself in a similar situation, as he describes below:

Before COVID-19, I was selling 45 to 50 tonnes of pineapples a year to hotels in the in Savusavu area. These pineapples were purchased at the farm gate by a trader who supplied quality fruit and vegetable to Savusavu hotels. The average annual farm gate price received was \$1.50 per fruit?. Most of the hotels are now closed and this long-established trader has ceased operations. There is now no market in Savusavu and I am forced to take all my fruit to sell wholesale in the Labasa market. Labasa depends on sugar as its main source of income and not tourism – so there is still a market for my pineapples there. However, I only now receive an average wholesale price per fruit of 75cents and I have to meet the cost of transport to Labasa (per.com Aad van Santen, May 15).

There is likely to be an adequate supply of pineapples for the next few years, while ratoon crops continue to bear fruit. However, current prices are seen as being far too low to encourage replanting. Thus within a few years a severe shortage of pineapples can be expected. In Vanuatu, where considerable progress had been made over the last few years in developing a commercial pineapple industry, a similar situation is being reported. (Per.Com. Vanuatu Farm Support Association. May 2).

Pacific island floriculture products are sold entirely on the local market of which a surprisingly low proportion is sold to the hotels. It might be assumed that the demand for flowers, a non-necessity “luxury” product, would fall sharply during these difficult times. However, at least in the case of Fiji, this has proven not to be the case. According to Aileen Burness, founder of South Seas Orchids (Fiji's largest and long-standing flower producer and marketer):

We found, following the military coups of 1987, 2000 and 2006, people continued to want to buy flowers. A few dollars for flowers were an affordable luxury people which provided some beauty for the house and a feel-good feeling in difficult times. We are finding the same to be true today with COVID-19 Pandemic. In addition, flowers remain a necessity for funerals, even though only 20 people are now allowed to attend (per, com June 1).

It is noticeable that floriculture products have been prominent in the proliferation of Facebook trading including bartering (eg “Bartering for a Better Fiji”) that has occurred over the last few months.

Export markets

Most fruit and vegetable products that are exported from PICs are from Fiji (papaya, eggplant, mango, breadfruit, okra, chillies, fresh basil and fresh turmeric) and Tonga (water melon). The market is mainly New Zealand, with papaya also exported to Australia and Japan, and fresh turmeric to the United States. In these markets, such fresh products can be expected to have reasonably low-income elasticities and their demand will not be severely impact by recession provided their prices remain reasonably competitive with the locally available substitutes.

This expectation has been borne out in discussion with exporters. In the case of fresh basil exported to New Zealand there has been an upsurge in demand during the lock down as people turned their attention to home cooking (per com. Kyle Stice General Manager Nadi Bay Herbs May 11th). However, these products now all face major marketing constraints which are discussed below.

Spices

Local markets

There have been limited sales of domestically grown spice products on the local market. An exception is Vanuatu, where Venui Vanilla sold a wide range of packaged spice products (vanilla, pepper, cardamom, ginger and turmeric) to tourists as “suitcase exports” and in recent years was focusing on this market rather than exporting. Some of Fiji’s processed ginger (crystallized) was also being sold to tourists. Until tourists start returning in significant numbers, these markets have been lost.

Export markets

The main market for Pacific island spice products has been the United States, which has been severely impacted by the pandemic. The expectation would be that the demand for these luxury products would have significantly declined due to the economic recession. However, while 2020 has seen some decline in world vanilla prices from their historic peak of over USD 600/kg in 2019, the interest of US buyers of vanilla remains strong – provided it is of the highest quality. To quote Ted Jones (Jones and Company Flavoring), who sources vanilla from Fiji and Vanuatu : *“We are all anxiously awaiting a more normal situation. Surprisingly, most brewers and bakers are still open and they continue to order vanilla”* (per com April 9th).

The Fiji ginger industry over the last 30 years has transformed itself from a fresh export industry, selling largely to the US, to a processing industry exporting a range of products (brined, crystalized and syrup) to Australia and the US. As with turmeric, there does yet appear to have been a significant contraction in the demand for these ginger products. Because these are processed products, they are non-perishable and can be sea freighted. Thus, they do not face the same severe marketing constraints of these products, such as fresh turmeric and basil.

Stimulant crops

Local markets

The main market for kava has been the domestic market, while betel nut is not exported. In the Pacific islands social and cultural gatherings are the main market for kava. With severe limits imposed on the size of gatherings in most PICs (in Fiji initially limited to 2, then 10, 20 and now 100), social gathering has been seriously curtailed and thus reducing the demand for kava. This could explain why prices have fallen over the last few months from their unprecedented high level at the beginning of the year, despite supply being severely impacted by damage caused by TC Harold on Kadavu the main production area.

The local demand for kava can be expected to recover quickly now with restrictions on the size of gatherings have largely been lifted. It might have been expected that there would have also been increase in the consumption of kava to relieve stress in difficult times. However, according to psychologist, Selina Kuraleca, this has not been the case – unlike what has been observed for the home consumption of alcohol (particularly beer), which has increased sharply with resulting social costs(per.com). This demand has now been further driven with reduction of the duty on alcohol in 2020/21 National Budget as part of the Government’s efforts to stimulate tourism (Fiji Times Aug.24th). At this time, no information is available on market demand for betel nut as a result of the pandemic.

Export markets

There was a growing export market for kava, predominately amongst Pacific island communities. In the United States, upmarket kava bars were becoming increasingly popular with the wider community, particularly in cities such as New York and San Francisco. On export markets, the demand for kava is also reported to have fallen due to restrictions on social gathering and kava bars. Also, in Pacific island communities kava has now become a luxury many can no longer afford. Fortunately dried kava is non-perishable that is now being shipped by sea, rather than air freight, to maintain supply flows and to keep prices down.

4.3.6 The expected impact of the pandemic on horticultural product marketing

Most fruit and vegetable products that are exported from PICs are from Fiji (papaya, eggplant, mango, breadfruit, okra, chillies, fresh basil and fresh turmeric) and Tonga (water melon). The market is mainly New Zealand, with papaya also exported to Australia and Japan, and fresh turmeric to the United States. In these markets, such fresh products can be expected to have reasonably low-income elasticities and their demand will not be severely impacted by recession provided their prices remain reasonably competitive with the locally available substitutes.

Fruit and vegetables products

Local markets

Initially the only direct impact on marketing of fresh fruit and vegetable products was from the closing off of urban areas (Suva and Lautoka in Fiji; Port Moresby and Lae in PNG). During lockdowns vehicles carrying produce were unable to enter. These lockdowns have now largely ended. However, there has been some indirect impacts on produce marketing - both positive and negative.

Positive impacts:

- A proliferation of road side stalls, selling fruit and vegetables along with such things as cooked food.
- A significant increase in online barter trading

Negative impacts:

- A closure of some marketing agents whose business depended on supplying hotels
- In some countries a further deteriorating in access road with government funding being re-allocated to COVID-19 mitigation measures.

Export markets

It is in this area of the export marketing of horticultural products that the impact of the pandemic has been the greatest in respect to agriculture. Fresh fruit and vegetables that are exported by airfreight are now facing massive marketing constraints. This freight has been entirely carried on aircraft configured to carry passengers and orientated to servicing tourism. These flights have now ceased. As a consequence there has been a large decrease in the availability of freight space and a huge increase in freight rates.

This marketing issue particularly relates to Fiji – the main horticultural exporter from the PICs. New Zealand, in particular, was an important market for a range of products including fresh papaya, eggplant, breadfruit, chillies, okra and basil. Prior to the pandemic freight space was available on a daily basis – supplied by Fiji Airways and Air New Zealand. The limited space that is now available is restricted to only twice a week, with the previously high freight rates more than doubling. The freight rates now far exceed the fob value of the produce being exported and making the product uncompetitive. This threatens the very survival of these key long standing and growing export industries.

⁹ An example of the impact of deteriorating road conditions on the local marketing of fresh fruit and vegetables and its implications for food security is provided by a rural settlement out the town of Savusavu, Vanua Levu Fiji. To quote the Fiji Times June 29th

Meals for Children worry Parents: Parents are worried about financing their children's school meals as the deteriorating farm road in Vucivuci outside Savusavu Town has affected their ability to transfer their produce and sell at the market for an income. Bogi/Tikosaya a farmer of 10 years in the area, said the bad road condition had resulted in crops and vegetables rotting at home because of unavailability of transport. "when the farm roads are down and this happens a lot during rainy days, we won't be able to travel to town and sell our vegetables and crops because trucks can't reach this area, and when our crops and vegetables rot at home because of no transport, we lose about \$300 and all our efforts are put to waste," he said. "when this happens, we can't receive any income to buy groceries for our wives to cook lunch for our school children or even at home for meals," he said. "A farmer can earn between \$200 and \$300 a week from selling vegetables and root crops, but when the farm road is down, we won't earn an income for about 2 weeks. (Fiji Times June 29, 2020)

These industries have extended value chains that provide livelihoods for large numbers of rural households and are essential for their food security. The situation now faced is described below by two major fresh produce exporters (turmeric and basil) and the key essential service provider for fresh fruit fly host export products (papaya, egg plant, mango and breadfruit).

Fresh turmeric to the United States: Produce Processing has been exporting fresh turmeric and ginger to the United States for more than three decades. Managing Director and founder, Arthur Mar, describes the current predicament faced:

Our long-time buyer in California, Mega, is crying out for Fiji turmeric. The “wild harvest” certified turmeric, sourced from village communities in the interior of Viti Levu, is regarded by our buyer to be of superior quality. Our orders for fresh turmeric have remained intact despite the pandemic.

Due to turmeric’s reputed health benefits, we can now send at least 30 tonnes per week – up from the 8 to 10 tonnes a week we were shipping several years ago. However, this fresh product must be airfreighted. Prior to COVID 19 we shipped by Air New Zealand – unfortunately, they suspended services to Fiji. Fiji Airways have now recommenced airfreight to LA – but only once a week, and occasionally twice a week. However, there is no certainty that space will be available and we could be left with perishable stock that we had already purchased that would have to be written off. In addition, freight rates have increased from the previous high \$3.50/kg to \$8.40/kg – which no longer makes our product competitive. Thus, for the time being we have ceased our exports – after some 30 years of continuous operations (per com May 23rd)

Fresh basil exports to New Zealand: Nadi Bay Herbs have been exporting fresh basil for more than a decade. The company’s Fiji Manager, Kyle Stice, described the company’s current situation at “Reset Fiji” panel presentation on June 21st.

Growing fresh produce for export has always been a challenge. Pre Covid 19 we faced a lot of challenges, things like pest and disease issues, cool chain management, shelf-life, high freight costs etc. Despite this our company and many other companies have managed to secure very good markets in places like New Zealand, Australia and the USA. And we ship 50 weeks a year and employ around 14 staff plus have a large network of suppliers and service providers.

Now when the travel restrictions started, there were no flights to get our produce to New Zealand but we had to continue harvesting every week because the crop is planted on a cycle so we were dumping produce in the field. And then Fiji Airways and our freight agent starting talking about freight flights and we were sent these calculations which basically said this is the cost to run an A330 to Auckland and back, divided by the amount of freight it could carry and that is the price we had to pay per kilogram for our freight. And.... they needed to fill up the whole flight both directions or they wouldn’t fly. So, they were asking for bookings or expressions of interest for flights that may or may not happen. We got our produce on the first freight flight to New Zealand and then the next week it was cancelled because they did not have enough produce.

While all of this was happening, we were writing to Fiji Airways and the various government agencies and requesting them to just commit to the freight flights and offer a reasonable rate to exporters and people will respond with produce.

And I remember talking to the freight agent one week who was loading around 20 tonnes of fresh taro to go to Sydney via Fiji Airways and wondering if the executives at Fiji Airways really knew how many rural farmers would be receiving cash directly to them in their villages as a result of facilitating these freight flights. So, in one way it has been a bit of a success story in that exporters did respond and routes like Nadi to Auckland increased from 1 flight a week up to 3 flights a week now with an enormous amount of that cargo being fresh agricultural produce. Now the freight rates are still too high and our exports are not competitive enough which means the industry can only grow so much.... but that’s another story.

Just a quick side note about when we were creating this awareness on freight flights and I remember reading one comment from a member of the public saying - ‘why do you need freight flights for agriculture? Don’t send our food overseas – keep it for the food security of the people’. I responded by saying that if anyone was able to purchase one tonne of fresh basil every week, I would gladly sell it on to the local market. So that’s the last point I want to make – the importance of agricultural exports. Now don’t get me wrong domestic markets are critically important and there is a lot we can do to enhance these markets; reduce imports and improve nutrition. But with a population of less than 1 million and a resource base of rich soils like we have, the capacity to grow agricultural products far exceeds the domestic markets and this is where export industries provide such valuable livelihoods to farmers because they can produce in excess and we can supply lucrative markets. Right now this is the key industry that is bringing foreign dollars into the country (<https://www.youtube.com/watch?v=gDThziHVN00>).

The quarantine treatment of fresh produce for export: A critical link in Fiji's fresh produced export value chains is Natures Way Cooperative (NWC) – an industry owned (some 300 farmers and exporters) business that operates a high temperature forced air (HTFA) facility. HTFA treatment is required for the export of fruit fly host produce. HTFA treated papaya, eggplant, mango and breadfruit are exported to New Zealand and papaya to Australia. Prior to the pandemic, the HTFA facility operated on a daily basis – including most weekends. The NWC General Manager, Donald Pickering, describes the situation now faced by the Cooperative.

March (COVID) lockdowns there were no flights; April TC Harold 70-80% damage in the valley where most supplies come from. MOA recorded 7.60 million damage in Sigatoka Valley. From April, there has been flights from one flight per week to now twice a week. Freight cost increased dramatically from \$1.20-\$1.70/kg to \$7/kg and now decreased to \$3-4/kg. NWC normal working days was 6 days has laid off some staff and current staff working 4 days a week (June 17th PIFON interview)

This low level of throughput is nowhere sufficient to cover the high fixed costs incurred in the operation of the certified quarantine treatment facility. Thus the very survival of this essential service cooperative, that has been successfully operating for nearly 25 years, is threatened along with the livelihoods of the large numbers of small holders who produce the products that are exported.

The operations of Fiji's, hitherto profitable, national airline had been built entirely around servicing the expanding tourism sector. This guided the policy in terms of the choice of aircraft and their configuration and the freight rates charged. A policy reset is now required that takes into account the needs of the fresh produce export industry where Fiji has been shown to have a comparative advantage. In this respect important lessons can now be learnt for the experience of Kenya, Ethiopia and Thailand where their respective national airlines played a key instrumental role in the development of now world leading horticultural export industries (Ali M., 2006).

Spices

The marketing of spice products is largely unaffected by the pandemic because of their non perishability and high unit value. It is for this reason that spice crops such as vanilla are well suited to remote locations – where delays in transport and high costs shipping don't necessarily impose a major constraint. To some extent, due to its high market price, high quality vanilla could absorb large increases in air freight costs and remain competitive. Being non-perishable means if space is not available on a particular flight, then it is not a major problem waiting, within reason, for the next available space.

Stimulant crops

Local markets

The local marketing of kava and betel nut has not been severely directly impacted by the pandemic.

Export markets

Kava has a growing export market which was mainly accessed through airfreight due to its high unit value. To some extent, due to its high market price, it is able to absorb large increases in freight costs and remain competitive. Dried kava, as with spices such as vanilla, is non-perishable and flight delays can be tolerated. A transition to sea freight shipments is now starting to occur to keep prices at a reasonable level to remain within the means of the Pacific islander diaspora whose incomes have been severely impacted by the pandemic.

4.4 Livestock products



VILLAGE BASED PIG PRODUCTION
IN TONGA AND VANUATU

COMMERCIAL CATTLE PRODUCTION
IN SOUTH SANTO VANUATU



SMALL SCALE VILLAGE BASED COMMERCIAL POULTRY PRODUCTION IN VANUATU

Throughout the region, free-range and small penned chickens and pigs are an integral part of self-sufficiency food production. Larger commercial pig and chicken production systems are only found in Fiji and PNG. Vanuatu has a significant beef industry based on smallholder cattle farms and larger plantations and is involved in some exports, particularly to PNG. A significant beef cattle sector is also present in New Caledonia. Fiji has a small dairy, goat and sheep industry. In most countries small-scale, livestock (mainly pigs and poultry), are raised by rural households. Pigs in particular play important role as indicators of wealth and social status; as an exchange medium and celebratory food in cultural, social and religious activities; as a source of household protein; and, as a form of investment. However, there are indications in some countries that there has been a decline in recent years in livestock being raised. The National University of Samoa reported that between 1999 and 2009, the total number of chickens, which have traditionally been raised for domestic consumption, dropped by 29%, and the number of pigs dropped by 9% (CTA 2018 p, 5).

4.4.1 Expected impact of the pandemic on production of livestock products

It is not anticipated that the pandemic will have any direct impact on the production of livestock products. At the household level, where most livestock products are produced, the main input is labour supplied by the household itself. At the larger commercial level, the main inputs are labour and livestock feed (except for grass fed cattle). There is sometimes a shortage of available labour and the pandemic could be expected to make more labour available. For commercial pig production in Fiji, purchased feed accounts for around 60% of production cost and this cost has increased significantly in 2020 (per. com. Simon Cole, Vuda Pigs). This increase can't be attributed to the pandemic – but rather it is due to the two major local flour mills losing their export markets and having less bi-product animal feed available resulting in pig producers having to import feed. However, increased theft is likely to be a significant indirect impact of the pandemic. This increased theft impacts on production and increases cost and can be an investment disincentive. To quote commercial pig producer Simone Cole, in his submission to the Fiji Crop and Livestock Council on the impact of COVID 19: “As a result of general unemployment theft has increased significantly. Farms are now incurring additional security costs and substantial losses (May 2020).

4.4.2 Expected impact of the pandemic on the markets for livestock products

The pandemic has impacted on the market for livestock – particularly for the products derived from pigs and beef cattle. This was particularly true during the early period when lock downs and bans on social gatherings were in place. It was at these social gatherings (“Maqiti function market”) that there was large scale consumption of livestock products. These restrictions have now largely been lifted. However, the large loss of jobs and the fall of income that has occurred, has impacted on the demand for livestock products – which tend to have a relatively high-income elasticity compared with staple food such as cassava and imported rice. The demand for top end livestock products from the tourist sector has now 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. Lafaele Enoka in his assessment report for IFAD describes the situation in Samoa:

The demand for table eggs also slumped with the shutdown of the food service (i.e. caterers, eateries) and hospitality industries as tourist numbers trickled to a halt from the travel ban. Restrictions on public gatherings also affected social and cultural events i.e. weddings, title bestowal, annual church meetings, which absorbs a fair proportion of egg supplies for food preparation. As a result, a major commercial egg producer experienced a 63 percent drop in weekly sales from pre SOE levels during the lockdown. An estimated loss of earnings of around \$50,000 SAT a week. Slowdown in demand for meat products i.e. local beef is also expected with restrictions on public gatherings affecting funerals and cultural ceremonies (June 2020) .

4.4.3 Expected impact of the pandemic on the marketing of livestock products

Livestock production is most entirely for the local market. Here, except during the early lock down period, the pandemic appears to have had no discernable impact on the marketing of livestock products.

5 A Summary Overview of the impacts of the pandemic on Pacific island agriculture food security and nutrition

The capacity to produce agricultural products

Overall, the pandemic has not had any discernible direct impact on the capacity of Pacific island countries to produce agricultural products. The main variable input into small holder production in the PICs is labour, which is largely supplied by the farm household itself. This pandemic has had no negative impact on this labour supply. If anything, there has been an increase in labour availability as some people who have lost their jobs in urban areas or in tourism, have returned to their rural home villages. This reverse of rural-urban migration appears to be particularly pronounced in Fiji where the economic contraction has been greatest. There is an important issue of how productive this labour is after a long absence from involvement in farming activities. Appropriate rural training has a key role to play in addressing these issues.

The markets for agricultural products

The impact on markets has varied significantly, depending on the type of product and the market that is being targeted.

Basic food staples. The domestic markets for food staples such as taro, cassava and sweet potato have not, as yet, been too adversely impacted despite a fall in overall income through the loss of jobs and the reduction in working hours. These food staples are seen as necessities with a low-income elasticity. The main substitute for locally grown food staples is imported grains (rice and wheat flour). The world price for rice was significantly higher in the 1st quarter of 2020 compared with 2019 and some substitution of traditional staples might be expected. With climate change, this trend in the relative prices of imported grains and traditional locally grown food staples can be expected to continue and could be further impacted if currency devaluations become a policy response to the economic situation faced.

Export commodities. The world prices for the PICs export commodities (coffee, cocoa, palm and coconut oil) have not, as yet, been severely adversely impacted. For coffee there was significant price increase in 2020. World sugar prices have fallen significantly in 2020 – however, it is not clear to what extent this has been due to the pandemic. The long-term impact of the pandemic on global commodity markets will depend on the length and depth of the global recession.

Horticultural products, spice products and stimulants. The impact of the pandemic on the markets for these products has depended on whether they are sold to the domestic local population, sold to tourists or exported. For horticultural products (fruit, vegetables, flowers), the main market is the local population. The impact of the pandemic on the market for these products has varied, depending on the product and location. The products most severely impacted are those linked to tourism – such as pineapples in Fiji. Overall, horticultural products are likely to have a higher income elasticity than staple food products such as root crops. Thus, their demand can be expected to be more severely impacted by job losses and falling income. When it comes to the fruit and vegetables that are exported to niche markets, such as papaya, fresh basil and fresh turmeric, these markets have remained intact. However, because of their perishability, they must be airfreighted and due to the pandemic (no tourists) fundamental marketing issues are now faced that threaten the very survival of these important livelihood generating industries.

For spice products, the export markets have largely remained intact. However, where there is a dependency on selling spices to tourists as “suitcase exports”, as in Vanuatu, these markets have closed for the foreseeable future. The market for the stimulants, kava and betel nut, are largely domestic, and have not been significantly impacted by pandemic – except during the early lock down period. Floriculture products are almost entirely sold on the domestic market. Surprisingly, very little was being sold to hotels – so the cessation of tourism has had minimal impact on the floriculture industry. While flowers are generally regarded as a luxury, demand has again proven to be surprisingly resilient during difficult times.

Livestock products. This market is entirely domestic – with the exception of some beef from Vanuatu. The pandemic has impacted on the domestic market for livestock products – particularly for the products from pigs and beef cattle. This was particularly evident during the early period when lock downs and bans on social gatherings were in place. Vanuatu also depends on the tourist market for top end beef products and this market has now entirely closed. In some countries the collapse in tourism has impacted on the demand for locally grown eggs.

The marketing of agricultural products

The only Pacific island agricultural products where their marketing has been severely impacted by the pandemic are those that depend on air freight for export. These are mainly fruit and vegetables from Fiji. With the cessation of all visitor arrivals, air freight capacity has drastically fallen and freight cost drastically risen. This now threatens the sustainability and viability of these important agricultural growth industries that make a substantial contribution to rural livelihoods and to national food security. A policy reset is now seen as necessary for a national airline whose focus was, hitherto, on supporting the development of the tourism industry.

The consumption of sufficient nutritious food by PIC populations

Prior to the COVID 19 pandemic there was considerable variability between PICs, and segments within each country, to the degree which they consumed adequate nutritious food. The micro states, which are the most food insecure, produce only small volumes of traditional staples and very little fruit and vegetables. Their populations depended on large per capita volumes of imported food and have limited export earning to purchase this food. In the larger Melanesian countries and the mid-sized Polynesian countries, much bigger per capita volumes of nutritious food are produced and there is far greater income earning capacity to pay for the necessary food imports. However, within these larger countries with substantial arable land resources, there are sizable segments of the population that are food insecure. These tended to be low income households in the rapidly expanding urban and peri urban areas such as Suva, Lautoka, Port Vila, Honiara and Port Moresby – and to a lesser extent, Apia and Nukualofa. In addition, there are significant numbers of landless people, particularly in PNG, living in rural areas. Overall, in the Pacific islands, with exception of the micro states, there is generally sufficient nutritious locally grown food available. However, often adequate quantities of this locally produced food are not consumed. This is due to a combination of factors, including: inadequate household income; and, a preference for imported food which is often more convenient and cheaper.

The pandemic in the Pacific islands, with the exceptionally low incidence of the virus itself, is unlikely to have a direct negative impact on the availability of nutritious locally produced food. However, there are some indirect negative impacts on the availability of locally grown food. These arise from such things as increased food theft, and the marketing constraints arising from less resources being available for the maintenance of rural roads. Offsetting these indirect negative impacts is the apparent increasing interest in home gardening by people living in urban and peri-urban areas. In addition, there has been a flow of some people back to their rural villages and an overall increase in the availability of labour to work in agriculture. Insufficient labour availability has been the major constraint to agricultural production in most PICs.

In the Pacific islands, the main impact of the COVID – 19 pandemic on nutritious food consumption has been on the demand and not the production side. The economies of countries such as Fiji, Vanuatu, New Caledonia, the Cook Islands and Palau are heavily dependent on tourism. This sector is by far the largest direct employer of labour with significant multiplier impact effects throughout the rest of the economy. In Tonga, Samoa and the Solomon Islands tourism, is less important but is still of considerable significance being major employer of labour. Visitor arrivals have ceased to all the PICs and it is expected that it will take several years, at best, to recover to pre pandemic levels. The closure of the tourism sector has led to massive job losses directly and indirectly through the linkage of tourism to the rest of the economy. This impact has been nowhere more so than in tourism dependent Fiji as discussed earlier in this overview report. Fiji, as with the other PICs, does not in place publicly funded social safety nets to cushion impacts of sudden job losses.

The effect on food demand and consumption has been greatest on the increasing numbers of urban poor as reflected in a survey conducted in May by the Lami (a suburb of Suva), District Council in 30 informal settlements, which found:

Most families had to cut down meals in a day because “breadwinners” were laid off due to COVID -19. The situation for most families in the area was dire, as they now had no work and found it very difficult to plant their own food because of lack of space in the squatter settlements. Most were already living below the poverty line and after COVID-19 their situation has now considerably worsened (Jone Tuilau Lami Direct Council, Fiji Times June 7, 2020).

For such households, the food that is purchased for survival is mainly imported rice and locally grown cassava and sugar etc. The purchasing of relatively expensive fruit and vegetables is now even less frequent than prior to the pandemic. For many of these residents of informal settlements, the returning to rural villages is not an option even if they wanted to. A new emphasis on back yard farming is highly desirable and needs to be further encouraged. However, there are significant limits to what can be realistically achieved in this area.

Lower income households, both rural and urban, in some PICs (particularly Tonga, Samoa and Kiribati) have depended heavily on remittances as an income source. These remittances have fallen significantly due to the recession that has occurred in New Zealand, Australia and the US. In terms of their food security the beneficiaries of the remittances living in rural areas in Tonga and Samoa are in a position to adjust by consuming more locally grown traditional food with resulting health and nutrition benefits. For the recipients of remittances living in urban areas and in atoll countries such adjustments are far more difficult. This presents a particular problem for the micro states that already have an exceptionally high level of aggregate food insecurity.

The food security and nutrition situation now faced is well summed up by the Principal of Tutu Rural Training Centre, based on Taveuni Fiji, in his June Quarterly Rpt.

The new coronavirus has taught us a lot of lessons where we have seen in countries like us (Fiji) with lockdown and quarantine our most affected sectors are the landless farmers, daily wage earners and the non-formal sector in the cities and rural areas since we are very much worried about how to earn to buy food and pay for our bills and utilities (Fr. Petero Matairatu sm June 8th)



THE FIJI YOUNG TUTU YOUNG FARMER COURSE PARTICIPANTS REPORTING ON THE SITUATION BACK IN THEIR HOME VILLAGES BACK IN THEIR HOME VILLAGES AFTER 2 MONTHS LOCKDOWN

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