



From the Farm to the Tourist's Table

**A STUDY OF FRESH PRODUCE DEMAND FROM
FIJI'S HOTELS AND RESORTS**

July 2018

IN PARTNERSHIP WITH



MINISTRY OF
INDUSTRY, TRADE
AND TOURISM



Creating Markets, Creating Opportunities

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Fiji Partnership

IFC's work in Fiji is guided by the Fiji Partnership. Australia and IFC are working together through the Partnership to stimulate private sector investment and reduce poverty in Fiji.



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This report takes its methodology from *Vanuatu Agri-Tourism Linkages: A Baseline Study of Agri Demand from Port Vila's Hospitality Sector* published by IFC in December 2015 and builds upon the concepts and approach established in that report.



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Foreward

Tourism is one of the key drivers of economic growth in Pacific Island countries. While accounting for more than 40 percent of GDP in some countries, it employs hundreds of thousands of Pacific Islanders across the region. Further, tourism draws over two million international visitors to the region each year, generating significant tourist spending.

At the global level, 1 in every 10 jobs is now in the travel and tourism industry. It is a major employer of youth and women and serves as a major engine for SME growth through supply chain development. Furthermore, it is the second-fastest growing industry in terms of Foreign Direct Investment (FDI) and accounts for 40 percent of the services exports in emerging economies.

In Fiji, the total number of jobs – direct and indirect – created by the travel and tourism industry amounted to 36.5% of total employment or 118,500 jobs in 2017.

Among Pacific Islands, Fiji leads the industry, attracting more than 40 percent of all international arrivals to the region. As the country aims to bolster the industry with its national tourism strategy – Fijian Tourism 2021 – Fiji is now looking at ways to boost the share of tourist spending that stays in the country. Consequently, identifying opportunities to link the tourism and agriculture sectors is a key priority, given their interdependence and the employment opportunities they offer.

Currently, Fiji relies largely on imported produce to meet the demands of its tourism sector. This can be attributed to a steady supply, high quality, and prices that are sometimes lower than the local produce. However, the estimated food import bill – FJ \$794.9 million in 2017 – is a significant cost driver for Fiji's tourism sector. By channeling resources to grow or produce certain fresh produce items locally, the country can potentially cut down its food import bill by FJ \$24.1 million (US \$11.8 million).

As a first step, the International Finance Corporation (IFC), in partnership with the Fiji Ministry of Agriculture (MoA) and the Fiji Ministry of Industry, Trade and Tourism (MITT), has conducted a study on the sourcing of imported and local fresh produce by Fiji's hotel sector. IFC believes that a better understanding of the market needs, including constraints and opportunities, will allow the private sector to scale up production, drive demand for locally grown produce, and ultimately create new markets for local products in the tourism industry, among others.

The report sets a baseline, compiles essential information, and supports knowledge sharing and collaboration between entrepreneurs, policymakers, civil society, development agencies, and research institutions in both the sectors. It aims to demonstrate the size of the fresh produce market for Fiji's hotels and resorts, discuss trends in hotels, and outline recommendations so that the two sectors can work together in the future.

Private sector development in the Pacific remains a challenge. Geographic dispersion, poor infrastructure and small populations can lead to non-competitive markets. Given the scenario, tourism and agriculture are two critical sectors for the long-term economic development of Pacific Island countries. IFC is keen to explore opportunities with its clients and donor partners to realize development impact through both investment and advisory support to the private sector in the Pacific region.

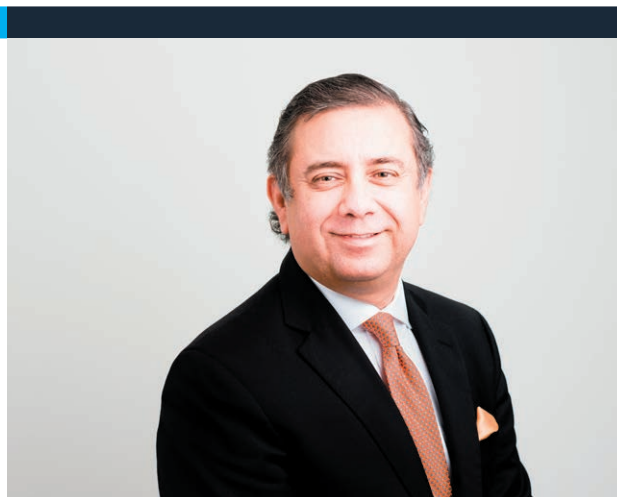
We thank our strategic development partner, Australia, and the Fiji government for their support and commitment in making this study possible, which shows how increasing local food production can help Fiji create a road map for a growing tourism sector in the region.

Sincerely,



Vivek Pathak

IFC Director for East Asia and the Pacific



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Summary of Findings

In 2017, hotels and resorts in Fiji's main tourism areas spent FJ \$74.4 million (US \$36.4 million) on procurement of fresh produce.⁽¹⁾ Of this amount, 52 percent, or more than FJ \$38.5 million (US \$18.8 million), was spent on imported items.

Table 1. Local and import demand from hotels by product category FJD millions

PRODUCE TYPE	TOTAL LOCAL DEMAND	TOTAL IMPORT DEMAND	TOTAL DEMAND
	FJD MILLION	FJD MILLION	FJD MILLION
<i>Vegetables</i>	3.80	4.65	8.45
<i>Fruits</i>	5.43	3.45	8.88
<i>Meat and poultry</i>	9.64	12.78	22.42
<i>Seafood</i>	11.19	6.10	17.29
<i>Dairy</i>	4.88	9.59	14.47
<i>Herbs</i>	0.82	0.34	1.16
<i>Packaged tropical juices</i>	0.19	1.57	1.76
TOTAL	35.95	38.48	74.43

Fiji has the potential to cut FJ \$24.1 million (US \$11.8 million) of its import bill by focusing its resources on growing or producing specific, high potential fresh produce items locally. Together, 18 fresh produce items account for 63 percent of the total fresh food imports consumed by hotels in Fiji's main tourism areas of Nadi, Lautoka, Denarau, Coral Coast and the Mamanuca and Yasawa Islands. These include:

- **vegetables:** potato, colored capsicum (red/yellow/orange), green capsicum, broccoli, lettuce, cauliflower, zucchini, purple cabbage, and green cabbage;
- **fruit:** tomato, orange, rock melon and honeydew melon;
- **meat and seafood:** beef, bacon and prawn;
- **dairy:** cheese; and
- **juice:** package tropical juices.

Initial observations on the viability of increased local production of these high-potential items are included in the report. The Ministry of Agriculture should, however, conduct further product-by-product reviews of these key items to identify more specific recommendations. The reviews should specifically focus on the technical feasibility of local production, including the effect of seasonal fluctuations in tourism demand and growing seasons, supply chain challenges, hotel buyer demands and requirements, financial feasibility vis-à-vis competition with lower priced imports and natural disasters.

¹ Any reference to demand mentioned in this report refers to the demand by the hotels in the main tourism areas of Nadi, Lautoka, Denarau, Mamanuca Islands, Yasawa Islands and the Coral Coast, unless otherwise specifically mentioned, and cover 74 percent of all rooms in Fiji. As a rough estimate, total demand for fresh produce by all hotels in Fiji would be more than FJ \$100 million.

Table 2. Fresh produce items with high potential for increased import substitution

PRODUCT	DEMAND OF IMPORTED PRODUCE FJD	POTENTIAL FOR LOCAL PRODUCTION
VEGETABLE		
<i>Potato</i>	\$673,350	A further review must be conducted on the feasibility of local potato production for supplying the tourism sector, with a specific focus on the ability to compete with imported potatoes on prices.
<i>Colored capsicum</i>	\$564,450	There is opportunity to grow colored capsicums for supply to hotels during the main growing season.
<i>Green capsicum</i>	\$365,450	There is opportunity to grow green capsicums for supply to hotels during the main growing season and during the low production season.
<i>Broccoli</i>	\$358,300	There is an opportunity to grow broccoli to supply hotels during the main growing season.
<i>Lettuce</i>	\$336,000	There is potential for increased lettuce volumes during the low production season and production of specialized varieties (e.g. cos, butter, red and green coral, salad mixes).
<i>Cauliflower</i>	\$247,170	Cauliflower is grown seasonally with production in the cooler months. There is opportunity to expand the number of production months.
<i>Zucchini</i>	\$171,520	Zucchini is grown locally and has good production during the cooler months. There is potential for more production during the low production season.
<i>Purple cabbage</i>	\$75,900	Purple cabbage is grown and harvested during the cooler months. There is potential for more production in areas of higher elevation during the low production season.
<i>Green cabbage</i>	\$48,150	Green cabbage is grown and harvested during the cooler months. There is potential for more production in areas of higher elevation during the low production season.
FRUIT		
<i>Tomato</i>	\$1,219,700	Tomatoes grow well in the main growing season. There is good potential for more production during the low production season.
<i>Oranges</i>	\$525,270	Oranges grow well in Fiji when in season. There is opportunity to further promote oranges to hotels when they are in season.
<i>Rock melon</i>	\$350,500	There is potential for increased production of rock melon.
<i>Honeydew melon</i>	\$339,350	There is potential for increased production of honeydew melon.
MEAT AND SEAFOOD		
<i>Beef</i>	\$7,090,630	Beef supplied to hotels is a mix of local and imported beef. There is a need to continue working on improving the quality of local beef and addressing disease issues.
<i>Prawns</i>	\$2,973,500	While there are locally farmed saltwater prawns available, there is a need for further analysis to understand the opportunities for increased import substitution for prawns.
<i>Bacon</i>	\$2,617,350	Bacon is produced using both local and imported pork. There is an opportunity for increased production of bacon using local pork.
DAIRY		
<i>Cheese</i>	\$4,556,400	Cheese is produced locally and imported. More local milk could be used for cheese production as it is a higher value product. Quality and variety of local cheese will need to be improved.
JUICE		
<i>Packaged tropical juice</i>	\$1,566,750	Opportunity exists to promote local fruit juice or young/drinking coconuts to hotels.

BACKGROUND

The International Finance Corporation (IFC), in partnership with the Fiji Ministry of Agriculture (MoA) and the Fiji Ministry of Industry, Trade and Tourism (MITT), conducted a study of the sourcing of imported and local fresh produce by Fiji's hotel sector.⁽²⁾ The study analyzes the purchasing patterns of Fiji's hotels, to better understand existing linkages between the tourism and agriculture sectors, and to identify opportunities to improve these linkages. This report covers Fiji's main tourism areas of Nadi, Lautoka, the Mamanuca and Yasawa Islands, Denarau and the Coral Coast that are home to 74 percent of all bed places.⁽³⁾ A conscious decision was made to not include restaurants, as up to 65 percent of tourist spending occurs at hotels, especially in Denarau and the Mamanuca and Yasawa Islands.⁽⁴⁾ Hotels in these areas also provide food and beverage services for cruise visitors.

The report estimates the demand for vegetables, fruits, meats, seafood, dairy, herbs, and juice products across hotels in Fiji's main tourism areas. Based on this demand estimate, as well as on feedback from specialists working in the sector and qualitative interviews with hotel chefs, owners and purchasing managers, the report identifies specific fresh produce items that have potential for import replacement by local agricultural producers.

The results and recommendations in this report can be used by the Fijian Government, farmers and suppliers, donor and development partners, hotels, and the broader agricultural industry to develop, fund and implement the policies and practices required to increase economic linkages between tourism operators and farmers. Increasing local food production can improve Fiji's trade balance, increase food security, and help to more evenly share the benefits of a growing tourism sector across Fiji's population.

Tourism is Fiji's largest foreign exchange earner and accounted for an estimated 118,500 direct and indirect jobs in 2017.⁽⁵⁾ The Fiji Reserve Bank estimates that tourism directly and indirectly accounted for more than 30 percent of Fiji's GDP in 2017. Visitor arrivals have seen consistent growth and, in 2017, grew by six percent to 843,000 international arrivals. Having achieved the initial goal of sound arrivals growth from a traditional tourism offer, Fiji is now looking at how to increase the value of tourism by reducing leakages and increasing the share of visitor spending that is retained in the country.

Currently, Fiji's tourism sector relies on imported produce (vegetables, fruits, meat, seafood, and dairy) to meet its needs. IFC will support Fiji's tourism sector by helping to develop stronger linkages between hotels and farmers. This is in line with Fiji's Tourism Development Plan, known as **Fijian Tourism 2021 (FT2021)**, which includes "Strengthening Linkages to the Tourism Industry" among its core strategies.⁽⁶⁾

2 Any mention of hotels includes all accommodation types with formal food outlets, such as hotels, resorts, motels, serviced apartments, etc.

3 Ministry of Industry, Trade and Tourism, Fiji 2015 Room Inventory.

4 Ministry of Industry, Trade and Tourism, Fiji International Visitors Survey, 2017 preliminary results.

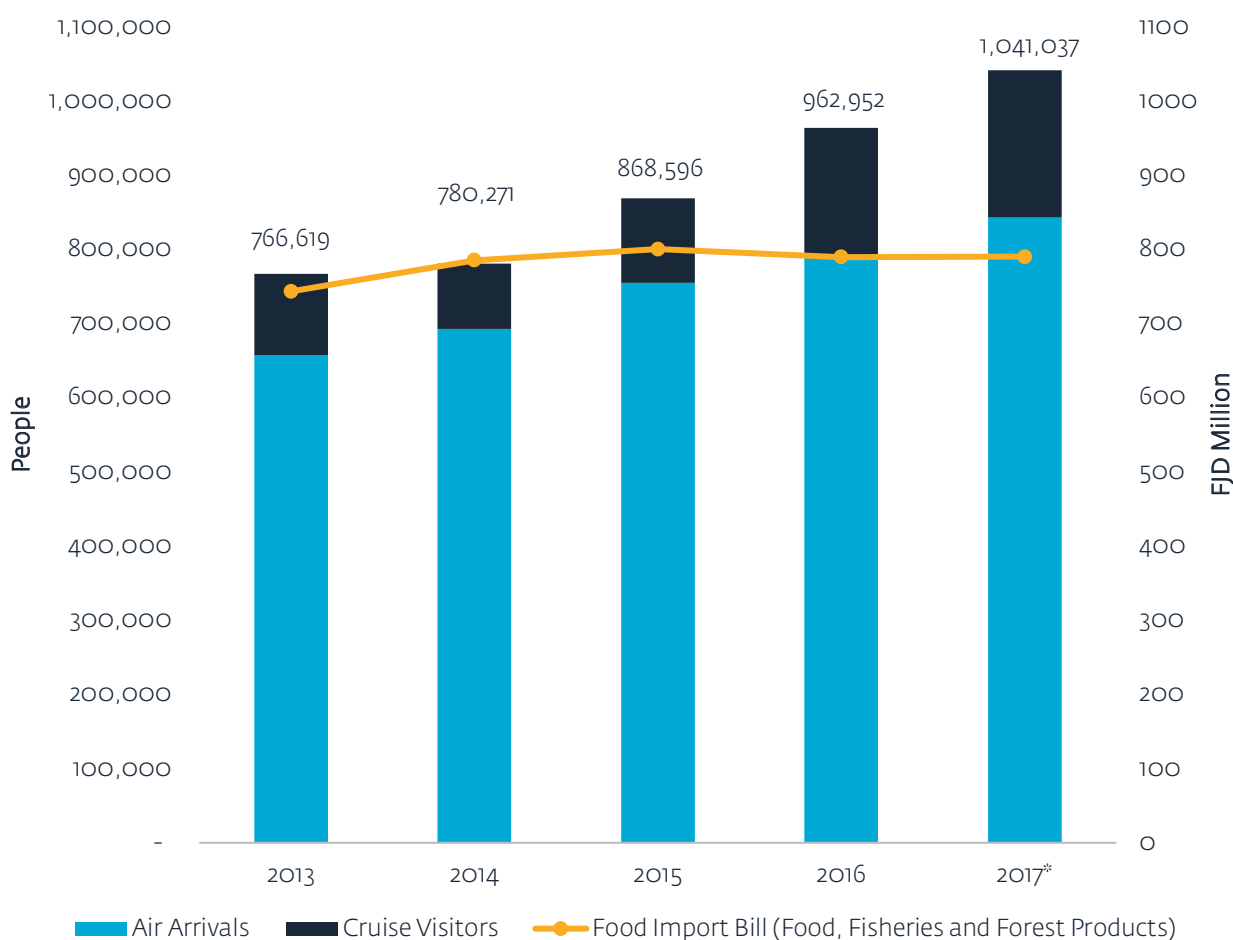
5 World Tourism and Travel Council (WTTTC), Travel & Tourism Economic Impact 2018 Fiji, March 2018.

6 Ministry of Industry, Trade and Tourism, Fijian Tourism 2021 Draft 2017.

Agriculture continues to be a major economic sector for Fiji, directly contributing seven percent to GDP.⁽⁷⁾ Although only 27 percent of the population is dependent on agriculture for a livelihood and source of food, agriculture is the main source of work for more than 83 percent of rural working persons.⁽⁸⁾ Given the potential benefit to local farmers and the economy, the Fijian Government is focused on increasing the linkages between the tourism and agriculture sectors through strengthening fresh produce supply chains to maximize local benefits.

Imported food items are a significant cost driver for the tourism sector. With the growth in tourism and urban population, Fiji's import bill was FJ \$4.9 billion in 2017. The food import bill alone contributed FJ \$794.9 million,⁽⁹⁾ comprising 16 percent of the total import bill for the country.

Figure 1. International arrivals (air and cruise) and food import bill 2013–2017



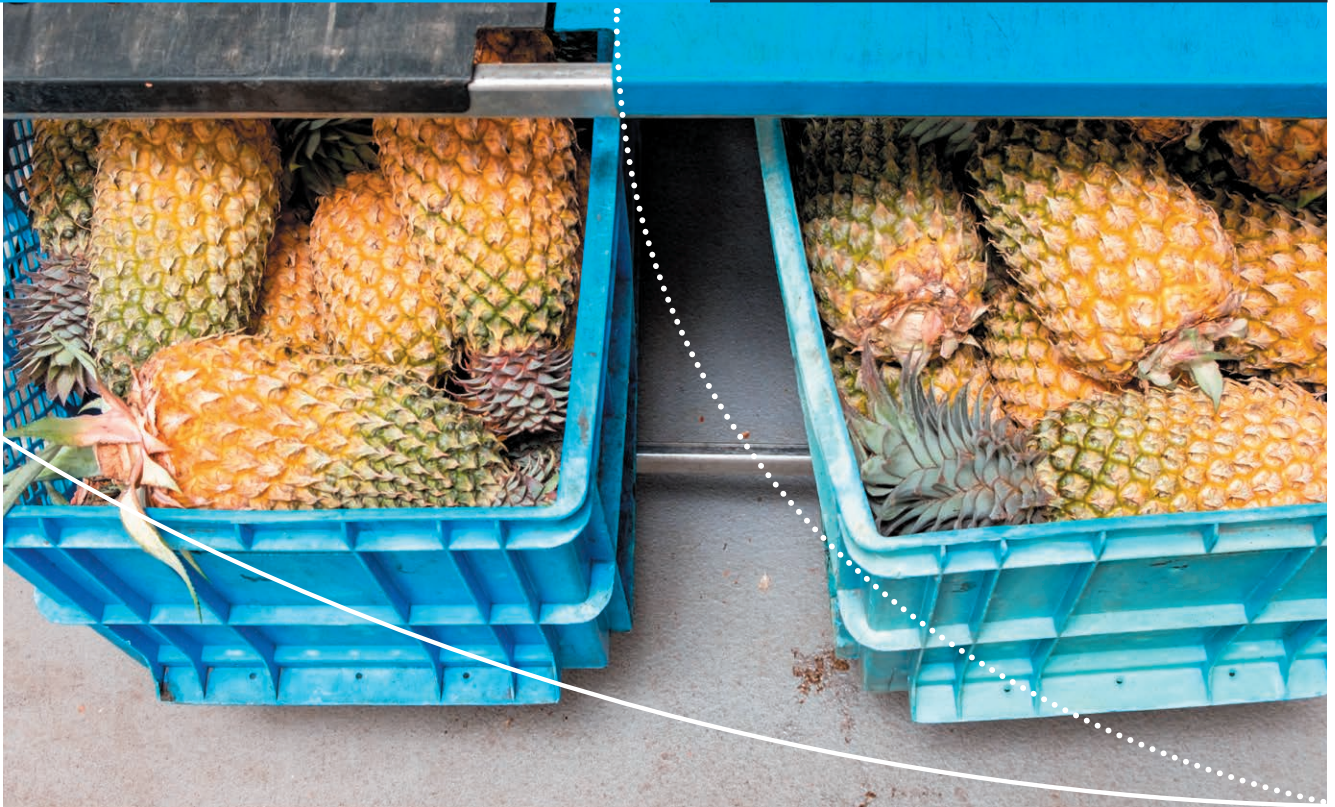
Source: Reserve Bank of Fiji 2018, Ministry of Agriculture 2018 and Fiji Bureau of Statistics 2018

*Cruise arrivals and food import bill estimated for 2017

7 Fiji Bureau of Statistics, National Accounts, Fiji's Gross Domestic Product (GDP) 2017.

8 Fiji Bureau of Statistics, 2015–2016 Employment and Unemployment Survey, Preliminary Findings – Release, Statistical News, 07 August 2017.

9 The food import bill includes fresh produce, processed food, forestry and fishery items.



KEY ISSUES IDENTIFIED

According to data gathered for this report, 52 percent of the demand for fresh produce from Fiji's main tourism areas is met by imported items, mainly imported meat, seafood and dairy products, but also imported fruits, vegetables and packaged juice. The value of fresh produce demand that is met through imports is estimated at FJ \$38.5 million (US \$18.8 million) per year.

The following issues were cited by hotel purchasing managers, chefs and general managers as key barriers to increased sourcing of locally grown produce:

- For fruits and vegetables, hotels identified seasonality of produce available locally (60 percent of hotel respondents) and inconsistent supply (47 percent of hotel respondents) as their first or second reasons preventing them from purchasing more local fruits and vegetables.
- For dairy, hotels identified inconsistent supply (53 percent of respondents) and poor quality of dairy products (49 percent of respondents) as their first or second reasons preventing them from purchasing more local dairy products.
- For meat, hotels identified poor quality of products (70 percent of hotel respondents) and lack of food safety standards (32 percent of hotel respondents) as their first or second reasons preventing them from purchasing more local meat.
- For seafood, hotels identified inconsistent supply (58 percent of hotel respondents) and poor-quality products (32 percent of hotel respondents) as their first or second reasons preventing them from purchasing more local seafood.

Five key barriers to increasing local production to meet the growing demand of Fiji's hotel sector were identified based on the data. They are described below.

1

Lack of networking between key decision-makers in hotels and local producers and suppliers

- **Chefs have the key decision-making power for purchasing but often do not have full information on available locally grown produce.** Foreign chefs may not know about the range of local fresh produce and supplier options available, as this information is typically held by the purchasing managers. This means that chefs, particularly in the larger, internationally branded hotels, do not have full information about locally available fresh produce. This is exacerbated by the frequent changes in chefs at these hotels, where executive chefs are typically on three- to five-year contracts and therefore change regularly. Despite a desire to use locally grown produce among chefs, new chefs in Fiji do not have strong networks to local suppliers or a deep understanding of available local produce.
- **Producers have little knowledge of markets and marketing strategies.** While some farmers have been successful at entering new markets, most farmers have little understanding of how to successfully market to the hotel sector. They do not know how to enter this new market, identify new buyers, and create marketing strategies to entice chefs and purchasing managers to try their products.

2

Inconsistent supply (particularly fruits, vegetables, seafood and dairy products)

- **Poor business ethics.** Hotel purchasing managers and chefs note that poor communication skills and lack of adherence to agreements on the part of farmers and suppliers are ongoing challenges. Local producers often do not communicate if they are unable to fill an order, product quality is poorer than anticipated, or there is an issue with delivery. This leaves hotels struggling to fill orders at the last minute and discourages them from purchasing from local suppliers in the future.
- **Lack of understanding of hotel purchasing requirements.** Producers do not understand the purchasing and business requirements of hotels, such as the need for electronic invoices, ability to take credit, packing and delivery requirements, and levels of anticipated quality of produce items. On the other hand, chefs do not always have a direct line of communication to producers to explain product preferences and requirements.
- **Technical growing skills and appropriate equipment.** Small-scale farms do not usually have the skills or equipment necessary to produce at larger volumes. This limits the amount of local fresh produce available in the market, even during the main growing season.

3

Seasonality of produce available locally (particularly fruits and vegetables)

- **Lack of supply in the low production season.** During the low production season (January to April) there is a significant decrease in the availability of local fresh produce, as well as a reduction in the quality of local fresh produce that is available. This is due to poor growing conditions, such as higher temperatures and, in some places, more rain. Low production can also be exacerbated by natural disasters, with strong winds and flooding damaging farm lands, storage areas and roads, and further limiting the availability of local fresh produce. Although the low production season corresponds to the tourism low season, the reduction in locally grown produce is drastic, meaning that the majority of hotel sourcing shifts to imports during this time.
- **Access to finance for smallholder farmers.** Accessible loans at an affordable rate remain a necessary component of future sector development. It is particularly difficult for Fijian farmers to obtain loans, as they are not allowed to use land as collateral. For smallholder farmers to increase output during the low production season, they require investment in farm infrastructure, such as irrigation and cover cropping.

4

Poor quality of products (particularly meat, seafood and dairy products)

- **Lack of proper infrastructure and poor post-harvest handling.** Although there have been improvements in this area during the past five years, most farmers and some suppliers do not have proper infrastructure and/or understanding of post-harvest handling techniques. This reduces the quality of local fresh produce during transport to the supplier or hotel or during storage periods. It also has serious implications for food safety and hygiene.
- **Quality of local products.** The quality of local meat and dairy products does not meet the standards of hotels or their guests. There have been issues in the past with the taste, texture and cuts of beef from local suppliers. Generally, local pork quality is good, although there are supply issues at times. For dairy products, hotels note that guests are particular about the quality of milk and have high standards for taste. Poor dairy quality is compounded by an inconsistent or low supply of milk from dairy farmers and the need to often import powdered milk and reconstitute it in Fiji. While the quality of local fruits and vegetables during the main growing season is good, there is still room for improvement in the low production season.

5

Lack of food safety standards for meat and seafood

- **Lack of applied food safety standards for meat and seafood.** Meat and seafood account for 33 percent and 16 percent of all imported produce, respectively. Hotels note that one of the barriers to entry for local meat and seafood is a lack of suppliers with recognized food safety certification. Meat suppliers in particular are inspected regularly by hotel purchasing teams and will be blacklisted if their facilities and processes do not meet hotel standards. Imported items are sometimes preferred due to their level of cleanliness and perceived safety, given that they are handled, processed and packed abroad.

KEY RECOMMENDATIONS

Based on findings of this study and on further engagement with stakeholders, IFC proposes that the key recommendations are implemented to increase local food sourcing by Fiji's tourism sector. A full set of recommendations is included in the Full Recommendations section of the report below.

Overarching Issues

- The newly formed Fiji Agritourism Working Group, a private sector and development agency group, should coordinate with agritourism stakeholders in Fiji to develop policy recommendations, share information and ensure efforts are harmonized across initiatives. There are several development agencies and projects in Fiji supporting the agriculture sector with a specific focus on linkages to the tourism industry. While results of this study indicate there has been an increase in local sourcing stemming from these past initiatives, coordination among stakeholders is still required.
- MoA should commission further product-specific analysis of the value chain of key products identified as high priority in this study in order to determine the financial and technical feasibility of increased local production. These high priority products account for more than 63 percent (including prawns) of the value of fresh produce imports from hotels in Fiji's main tourism areas. Within the value chain analyses, MoA should assess if Fiji can produce these items at a competitive cost compared to imported produce. This will need to take into consideration the recent reduction of import duty from five percent to zero on selected fresh fruits and vegetables,⁽¹⁰⁾ announced as part of the 2018–2019 Fiji National Budget. Competitive costs should take into consideration the willingness of hotels to pay slightly higher prices for locally grown produce, especially during the low production season. Key products include:
 - **vegetables:** potato, colored capsicum (red/yellow/orange), green capsicum, broccoli, lettuce, cauliflower, zucchini, purple cabbage, and green cabbage;
 - **fruits:** tomato, orange, rock melon and honeydew melon;
 - **meat and seafood:** beef, bacon and prawn;⁽¹¹⁾
 - **dairy:** cheese; and
 - **juice:** packaged tropical juices.

¹⁰ Fruits and vegetables include apples, grapes, oranges, pears, kiwi fruits, strawberries, apricots, peaches, plums, grapefruit, raspberries, cranberries, pomegranates, carrots, mixed vegetables, celery, capsicum, mushrooms, asparagus, leeks, spinach, cauliflower, broccoli and Brussel sprouts (Republic of Fiji 2018–2019 National Budget).

¹¹ Increased local prawn production is managed by the Ministry of Fisheries.

1 Lack of networking between key decision-makers in hotels and local producers and suppliers

- IFC will pilot a program with hotels to increase their ability to purchase locally grown produce by streamlining procurement systems, increasing market linkages and networking, and improving promotion of local food content to their guests. This will encourage a demand-driven approach, where guests expect locally grown produce to be served. The program will aim to raise awareness with chefs, kitchen staff, purchasing managers, and guests on the range of fresh produce available in the local market. The approach will further incentivize chefs to focus on locally grown produce as demand from guests increases. Hotels such as Shangri-La's Fijian Resort and Spa are already using this technique to their advantage.
- As a part of the pilot program, IFC will support specific aggregators identified by hotels to increase their supply by strengthening linkages with farmers. IFC will connect aggregators to the Fiji Agricultural Partnerships Project (FAPP) and other development partners that are already working on increasing farmer output during the low production season.
- IFC plans to partner with the Fiji Chefs' Association to set up networks and field visits for chefs to meet local suppliers and learn about their products. Chefs have the final purchasing decisions but often do not have full information about available options for a variety of reasons, including turnover of chefs and rent-seeking behavior by purchasing managers. Systematically linking chefs directly to local suppliers can streamline purchasing and support menu development focused on locally grown, seasonal produce. Marketing linkages, such as databases of suppliers and regularly updated product information, are also necessary to ensure that hotels are aware of available produce options.
- The Ministry of Industry, Trade and Tourism (MITT) should continue to create opportunities to better integrate the Fijian Made-Buy Fijian Campaign into the tourism sector by targeting visitors, chefs and purchasing managers directly. Visitors can also be targeted through integrating the campaign into Tourism Fiji's marketing initiatives, while chefs and purchasing managers can be targeted through the Fiji Hotel and Tourism Association and the Fiji Chefs Association. The Fijian Made-Buy Fijian Campaign is a Fijian Government initiative, aimed at promoting Fijian Made products and services, both domestically and internationally.

2 Inconsistent supply (particularly fruits, vegetables, seafood, and dairy products)

- The Fiji Agricultural Partnerships Project (FAPP) should include a training module on hotel purchasing requirements and processes (based on information provided by IFC) in their smallholder farmer training curriculum. FAPP should include specific modules on the business skills and ethics required to successfully sell fresh produce to hotels. The curriculum should include detailed information on hotel purchasing requirements, improving competitiveness of products against imports, expectations of regular communication with aggregators and hotels, and general business skills.
- As part of the pilot program with hotels, IFC will create a guide that can be used to upskill key hotel suppliers on hotel purchasing requirements, including projected demand for specific products, seasonal demands, facility and infrastructure standards, computer-generated invoicing, product quality, and packaging. For prawns, IFC will channel the information to the Ministry of Fisheries to support their activities on local production of saltwater and freshwater prawns.

- MoA and other development partners should use the results of this study to prioritize support for increased local production of the fresh produce items with high potential for import substitution identified in this study. Existing programs support farmers through the distribution of seeds, seedlings, agriculture inputs, grants, incentives and technical assistance. Incentives and grants should aim to promote investment in farming using modern equipment capable of meeting volume and quality demands. To compete with imported produce on quality, volume and price, farm production capacity must increase through industrial and modern farming techniques. MoA should assess, learn from and replicate successes of the Sigatoka Valley Development Program.

3

Seasonality of produce available locally (particularly fruits and vegetables)

- In order to meet volume and quality demands, especially during the low production season, the private sector should invest in agriculture-related infrastructure, with a focus on modern equipment and improved farming techniques, such as hydroponics, aquaponics, cover cropping and improved irrigation facilities where applicable. The results of this study, supported by follow-on reviews of specific products, can be used to support grant or loan applications where appropriate.
- The Fiji Agricultural Partnerships Project (FAPP) and MoA should prioritize the growing of the high value fresh produce items identified in this report during the low production season in areas of high elevation. Certain crops can be produced in the low production season in areas of high elevation where the weather is cooler. Low production season growing should be focused on crops with higher values to ensure that farmers can maximize their returns. IFC will support these efforts by working with hotels to specify low production season produce needs and channeling this information to FAPP.

4

Poor quality of products (particularly seafood, meat and dairy products)

- IFC will work with the Fiji Chefs' Association, hotels and MoA to create or update vegetable and fruit grading charts that detail the quality, size, color, freshness and packaging requirements for the main items sourced by the hotels. The charts will support farmers in harvesting at the appropriate time, grading and sorting fresh produce items based on hotel requirements versus local market requirements. The charts can be disseminated to farmers through MoA and The Fiji Agricultural Partnerships Project (FAPP).

5

Lack of food safety standards for meat and seafood

- IFC will work with hotels to determine the market demand for meat and seafood suppliers to have a recognized food safety standard based on the Hazard Analysis and Critical Control Points (HACCP) Certification.⁽¹²⁾ HACCP Australia (Fiji) Limited, an Australian company operating in Fiji, has developed a Critical Control Points Lite (CCP Lite) for Restaurants and is interested in developing a similar product for fresh produce suppliers, given sufficient demand.
- Should hotels express demand for suppliers to adopt this standard, HACCP Australia (Fiji) Limited should develop and test the CCP Lite standard for meat and seafood suppliers and certify at least two suppliers. Fulfilling this recommendation will depend on suppliers understanding the business case for certification – that an investment in food safety standards will increase their ability to sell to hotels. CCP Lite is seen as a stepping stone to full HACCP certification.

¹² HACCP is a globally recognized food safety standard that uses a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes.





Study Findings

The IFC and the Fijian Ministries of Agriculture and Industry, Trade and Tourism estimate through this study that in Fiji's main tourism areas:

- FJ \$74.4 million (US \$36.4 million) is spent annually by hotels on fresh produce items, including fruits, vegetables, herbs, meats, dairy products and seafood,⁽¹³⁾ of which:
 - 52 percent is imported, amounting to a total of FJ \$38.5 million (US \$18.8 million), and
 - 48 percent is procured locally, amounting to FJ \$36.0 million (US \$17.6 million);
- These imports accounted for approximately five percent of the total food import bill in 2017; and
- Of the total imported items consumed by hotels in the main tourism areas, 74 percent are attributable to the demand for meats, seafood, and dairy products.

¹³ Based on data in this report from 2017.

Figure 2. Total fresh produce demand in FJD million and percentage of imports by produce type

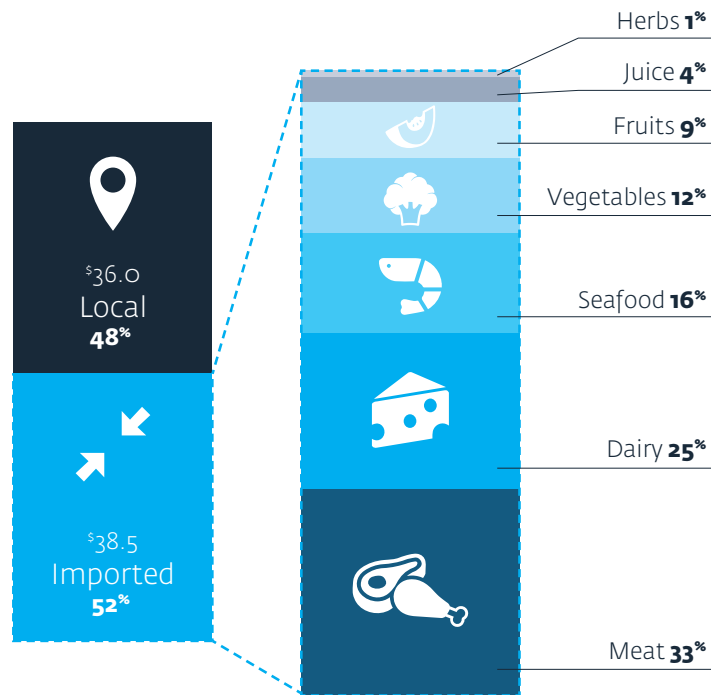
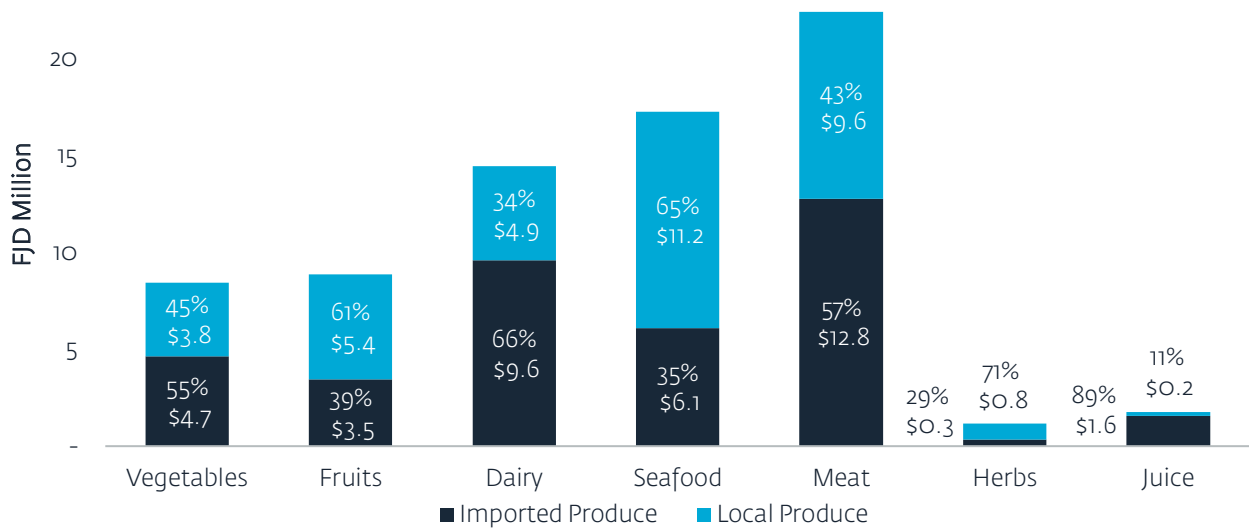


Figure 3. Local and imported fresh produce demand by product category FJD million and percentage



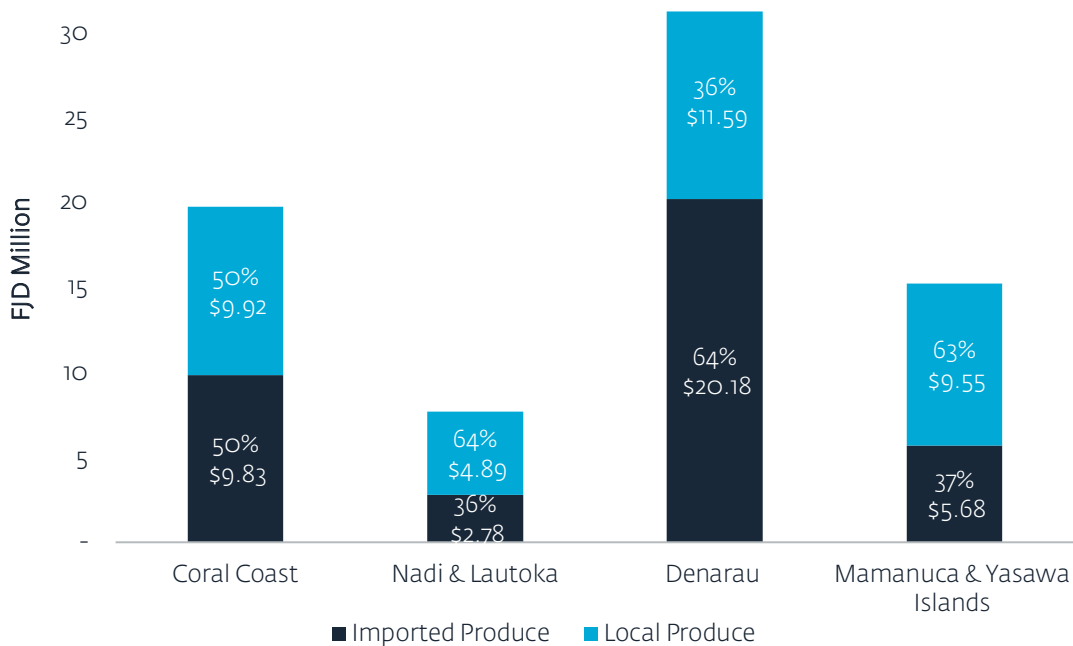
PROCUREMENT APPROACH TAKEN BY HOTELS

This study examines purchasing patterns based on location, size and price category of the hotels in Fiji's main tourism areas, as the hotels have different procurement procedures influenced by these factors.

Key factors that increase local purchasing include:

- the ability to assess produce needs on a daily basis and purchase more often;
- the ability and willingness to rapidly change menus based on seasonality and availability of produce;
- proximity to productive farmland that offers a variety of produce types and quick delivery, as well as strong networks between hotels, suppliers and producers;
- the ability to assess produce quality at the market before purchasing;
- the need to forecast produce volumes on a weekly basis and pre-order high volumes at cheaper prices from importers; and
- commitment to local sourcing at all levels of the hotel purchasing system and driven by the chef.

Figure 4. Imported and local fresh produce demand by hotel location in FJD million and percentage



Hotels in Nadi, Lautoka, the Mamanuca Islands and the Yasawa Islands have higher levels of local purchasing, while hotels in Denarau have the lowest level of local purchasing. This is probably due to a combination of market and location factors. Denarau and Coral Coast hotels are focused on the Australian and New Zealand family market, where children's tastes put limitations on diversity of foods and opportunities for import replacement (e.g. kumala instead of potato). However, hotels along the Coral Coast have access to the highly productive farms of the Sigatoka Valley, allowing them to purchase more local fresh produce. Based on the research conducted for this report, chefs in hotels on the Coral Coast have lived in Fiji for longer, tend to have stronger networks with farmers and suppliers, and have more knowledge of locally available fresh produce.

The higher use of local fresh produce in the Mamanuca and Yasawa Islands can be attributed to the smaller size of hotels there. These hotels are more flexible in purchasing and changing menus to accommodate produce availability (see below). Additionally, these hotels often have a strong community focus, especially in the Yasawa Islands, where hotels have supported local farmers by targeted purchasing, and assisting them in setting up small-scale farming projects.

Figure 5. Imported and local fresh produce demand by hotel size in FJD million and percentage

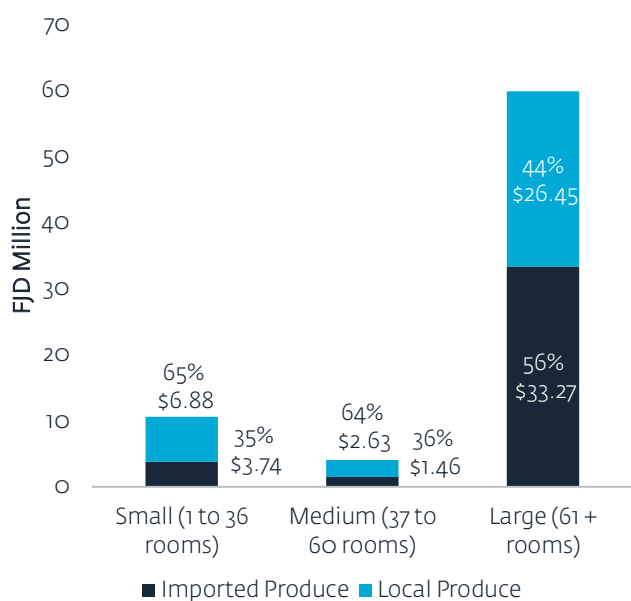
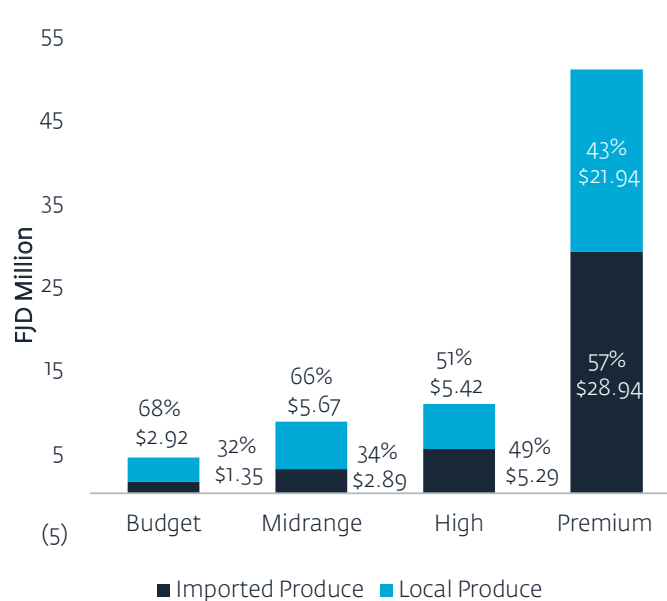


Figure 6. Imported and local fresh produce demand by hotel price category in FJD million and percentage⁽¹⁴⁾



Procurement practices of smaller hotels enable them to purchase more local fresh produce. Smaller hotels, regardless of price category, typically rely on a procurement staff member to visit the local markets and supermarkets to purchase produce daily or bi-weekly. These hotels buy smaller amounts and tend to pay cash to their suppliers at the market. Since hotel staff personally purchase the goods, they are able to assess the quality of all available products directly at the market and select according to their preferences. Smaller hotels also have more flexibility with menus and change or modify the dishes based on seasonality or availability of products. Medium to large hotels tend to work with suppliers, ordering produce on a weekly or semi-weekly basis, and getting supplies delivered when required.

Hotels in the high and premium price categories purchase more imported fresh produce, especially meat and dairy products. This is due to high guest expectations for top quality food, as well as food safety requirements. This is probably exacerbated by a tendency for these hotels to have expatriate chefs that change every three to five years. These chefs often have lower knowledge of locally grown produce options and experience with suppliers.

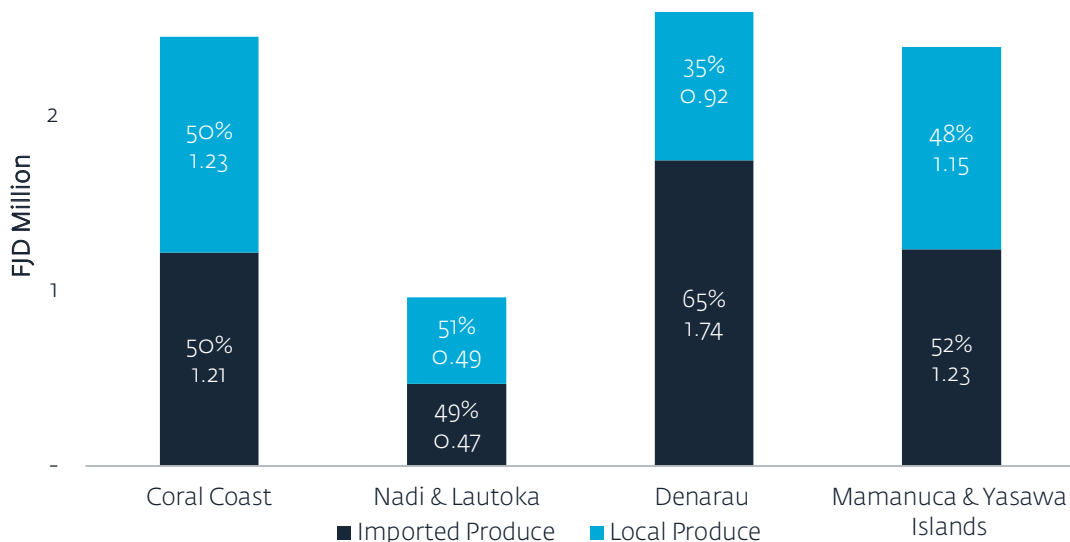
¹⁴ Categories based on Tourism Fiji and MITT classifications. Budget = FJ \$1–FJ \$99, Mid-Range = \$100–FJ \$249, High = FJ \$250–FJ \$499, Premium = FJ \$500 and greater.



VEGETABLES SEGMENT

Total vegetables demand is FJ \$8.4 million (US \$4.1 million) or 12 percent of total fresh produce demand, of which six percent or FJ \$4.7 million (US \$2.3 million) is spent on imports, in terms of value. Overall, 55 percent of the vegetables demand is met by imports.

Figure 7. Imported and local vegetables demand by hotels based on location in FJD million and percentage



Hotels in Nadi, Lautoka, the Mamanuca Islands and the Yasawa Islands have higher levels of local purchasing, while hotels in Denarau have the lowest level of local purchasing. This is probably due to a combination of market and location factors as noted above. Hotels in Denarau consume items that are not generally used by small to medium hotels, including mushrooms, different lettuce varieties, colored capsicums, broccoli and celery. They may also have stricter food safety requirements and thus would prefer imported produce for some lines.

Overall vegetable purchasing volumes in the Mamanuca and Yasawa Islands is comparable to Denarau, as the areas have a similar number of rooms (1,327 and 1,660 respectively). Additionally, tourists in the Mamanuca and Yasawa Islands typically eat all their meals on the property, while in Denarau guests have the option to eat at a restaurant. Several hotels in the Mamanuca Islands also cater for a large number of day visitors.

Vegetable imports

The top seven imported vegetables consumed by hotels (see below) account for 67 percent of total vegetable imports by value. Potatoes and carrots could be grown locally at certain times of the year. However, in order to compete with imports in terms of price, appearance and quality, these products require investment in modern and industrial farming equipment, and large, flat tracts of land.

Capsicums and lettuce are grown locally, with farmers trying to produce all year round; but during the low production season, high temperatures and significant rainfall greatly affect production. There is the potential, however, to grow colored capsicums and broccoli for local supply during the growing season.

Products that are in relatively less demand, such as beetroot, sprouts and cherry tomatoes, can easily be grown locally during the growing season and farmers should be incentivized to do so. The import demand for them may not currently be as significant as that for the main imported items, but there is some import of these items that can be substituted with locally grown produce.

Table 3. Top seven vegetables by import value

PRODUCE	IMPORTED VOLUME IN KG	IMPORTED PRICE	TOTAL IMPORTED VALUE	POTENTIAL FOR INCREASED LOCAL PRODUCTION	LOCAL PRICE
	KG	FJD PER KG	FJD		FJD PER KG
<i>Potato</i>	477,551	\$1.41	\$673,347	Yes	\$1.80
<i>Colored capsicum (red, yellow, orange)</i>	41,200	\$13.70	\$564,440	Yes	\$11.00
<i>Onion</i>	270,353	\$1.69	\$456,897	No	N/A
<i>Carrot</i>	168,331	\$2.25	\$378,745	No	N/A
<i>Capsicum (green)</i>	30,202	\$12.10	\$365,445	Yes	\$9.00
<i>Broccoli</i>	26,739	\$13.40	\$358,300	Yes	\$10.00
<i>Lettuce</i>	26,690	\$12.59	\$336,030	Yes	\$8.00

Table 4 below matches the demand of the imported food item with an assessment of the technical feasibility to produce it locally. Demand is classified as above 80 percent imported, 20 percent to 80 percent imported or below 20 percent imported. Technical feasibility for local production is assessed as high (product can be easily grown in Fiji), medium (product can be grown but there are technical, knowledge and climate barriers), and low (there is little viability of the product being grown in Fiji). Classification as high for potential import substitution is based on demand being between 20 and 100 percent met by imports and a high or medium technical feasibility for local production.

Observations

Key vegetable products with potential for import substitution



Potatoes – Currently Red Pontiac potatoes are being farmed locally due to their ability to grow in Fiji's climate. They are grown during the cooler months and normally there are some local potatoes available in the market from September to November. Current potato production is dependent on MoA potato seed distribution programs that aim to reduce total potato imports by 10 to 15 percent by 2025. Additionally, there is potential to sell baby gourmet potatoes to hotels. Baby gourmet potatoes are too small to be used as seed or sold to the local market but could be sold to hotels if there is interest. Additional links and awareness exercises need to be carried out to better promote this item to hotels.

Given the low price of imported potatoes and lack of mechanization in local potato production (growing, harvesting and packing), it will be difficult for local potatoes to compete with imported potatoes in volume, price and variety. Further review must be conducted on the feasibility of potato production for supplying hotels and possibly an analysis on potato versus other cash crops that could be planted for the sector.



Colored capsicum (red, yellow, orange) are grown during the cooler months of the year but are mostly harvested as green capsicum. The quality of capsicums produced during this time can rival imported products. To grow colored capsicums farmers need to allow the capsicums to ripen on the vine to attain its color. Farmers are hesitant to do this, as it decreases the return on investment and increases the risk of crop loss due to weather. While there are some colored capsicums available in the market, results show that there is opportunity for more colored capsicums to be produced. During the low production season there is little to no production of capsicums, although there is an opportunity to produce them, either under shade or on farms located at a higher altitude where the temperature is cooler. Farmers also need to be persuaded to delay harvesting in order to obtain colored capsicums that sell for higher prices than green capsicums.



Broccoli is grown seasonally with production in the cooler months. During the warmer months, there is no production, due to higher temperatures. The local broccoli has medium-sized heads, but does not stay as firm as the imported broccoli and has a shorter shelf-life. This results in local broccoli production not affecting the volume of imported broccoli. With proper post-harvest handling and storage, however, the shelf life of broccoli could be extended.



English cabbage is grown seasonally. During the cooler months, production is at its peak. During the low production season, production is at a minimum or none. There could be an opportunity to produce cabbage during the low production season on farms that are located at a higher altitude where the temperatures are cooler. During the low production season, most or all the English cabbage is imported to ensure market demands are met.



Purple cabbage is grown and harvested during the cooler months. During this time purple cabbage grows extremely well and has well-developed heads. When local purple cabbage is in production, very little is imported, but during the low production season, all purple cabbage is imported. There may be an opportunity for production during the warmer months in areas of higher altitude, where the temperatures are cooler.



Lettuce is grown all year round and production is at its peak during the cooler months. During the low production season, when the temperature is hot and weather conditions are not favorable, lettuce production is much less. There is an opportunity to produce lettuce during the low production season on farms that are located at a higher altitude where the temperature is cooler, or in shade or in green houses. It could also be produced hydroponically, with a few farms already doing so on a small scale. However, risks of cyclones and adverse weather would need to be considered when looking at greenhouse and hydroponic production, as these could limit return on investment. There is also opportunity for specific varieties of lettuce to be grown, such as cos lettuce, butter lettuce, coral lettuce, and mixed lettuces for salads.



Green capsicums are produced during the cooler months of the year. There could be an opportunity to produce capsicum during the low production season in farms that are located at a higher altitude where the temperature is cooler. There could be an opportunity to grow capsicums in shade or greenhouses. Mitigating the impacts of cyclones on these investments would need to be considered.



Cauliflower is produced in abundance during the cooler months of the year. The quality of the cauliflower during this time is good, but it gets bruised easily and extra effort needs to be placed on post-harvest handling to ensure it remains white and not bruised. There could be an opportunity to extend the cauliflower production months by growing this at farms located in a higher altitude where the temperature is cooler.



Zucchini is grown all year round, but production is better during the cooler months. During the low production season, zucchini could be produced in farms located in a higher altitude where the temperature is cooler. It could also be produced under a mixture of shade and removable plastic cover to ensure that heat and excess rain do not affect the plant.



Demand for the following vegetables is being met 100 percent by local producers:

- amaranthus/local spinach
- bele
- cassava
- chili
- chinese cabbage/bok choy
- cowpeas
- cucumber (normal)
- cucumber (telegraph)
- duruka/local asparagus
- eggplant
- fern leaves/ota
- green beans/french beans
- heart of palm
- kumala
- long beans/snake beans
- okra
- pumpkin
- rourou
- taro/dalo
- watercress

Table 4. Prioritized list of vegetables with potential for import substitution

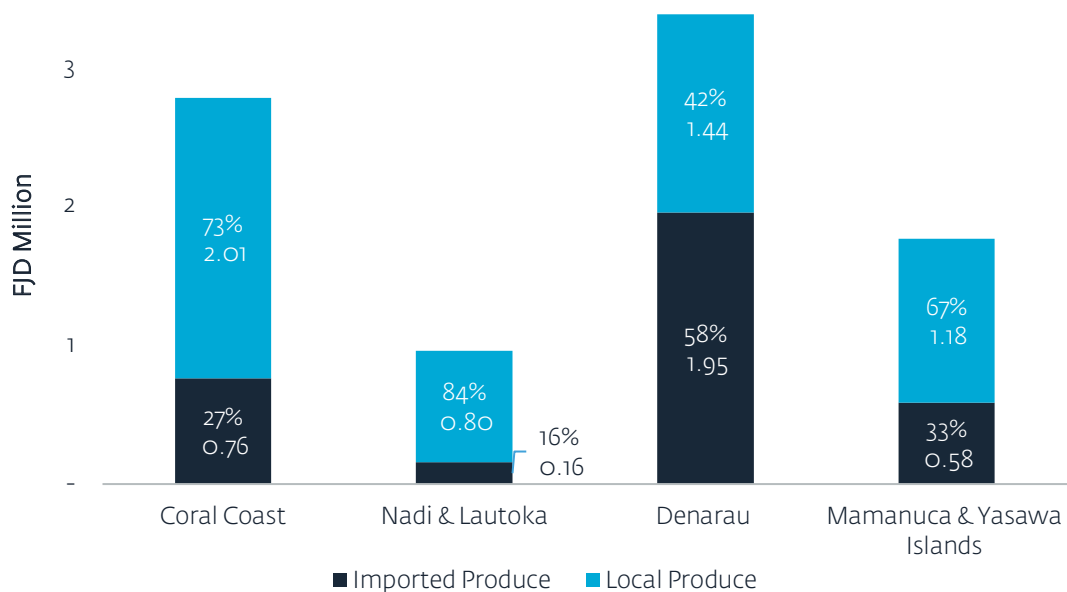
PRODUCT	PRIORITY FOR IMPORT SUBSTITUTION	TOTAL PERCENTAGE IMPORTS OF VOLUME DEMAND	FEASIBILITY OF LOCAL PRODUCTION	COMMENTS
<i>Potato</i>	High	Above 80 percent	Medium	Further review must be conducted on the feasibility of local potato production for supplying the tourism sector, with a specific focus on the ability to compete with imported potatoes on prices.
<i>Capsicum (red, yellow, orange)</i>	High	Above 80 percent	High	There is opportunity to grow colored capsicums for supply to hotels during the main growing season.
<i>Broccoli</i>	High	Above 80 percent	High	There is opportunity to grow broccoli during the growing season.
<i>Beetroot</i>	High	Above 80 percent	High	Beetroot is all imported. There is a small market for beetroot and this crop could be grown in Fiji during the cooler months.
<i>Capsicum (green)</i>	High	20 percent – 80 percent	High	There is opportunity to grow capsicums for supply to hotels during the growing season and during the low production season.
<i>Cauliflower</i>	High	20 percent - 80 percent	High	Cauliflower is grown seasonally with production in the cooler months. There is opportunity to expand the number of production months.
<i>Zucchini</i>	High	20 percent – 80 percent	High	Zucchini is grown locally and has good production during the cooler months. There is potential for further growing during the low production season under shade.
<i>Cabbage (English purple)</i>	High	20 percent – 80 percent	High	Purple cabbage is grown and harvested during the cooler months. There is potential for more production in areas of higher elevation during the low production season.
<i>Lettuce</i>	High	Below 20 percent	High	There is potential for increased lettuce volumes during the low production season and production of specialized varieties (e.g. cos, butter, red and green coral, salad mixes).
<i>Cabbage (English green)</i>	High	Below 20 percent	High	Green cabbage is grown and harvested during the cooler months. There is potential for more production in areas of higher elevation during the low production season.
<i>Cherry tomato</i>	Medium	20 percent – 80 percent	High	There is potential to sell more local cherry tomatoes during the low production season.
<i>Onion</i>	Low	Above 80 percent	Low	Onions prefer cooler temperatures and cannot be grown in Fiji efficiently.
<i>Mushroom, white button</i>	Low	Above 80 percent	Low	Biosecurity access would be required to import mushroom spores. Technical expertise on compost production for white button mushroom growing is needed.
<i>Celery</i>	Low	Above 80 percent	Low	Celery is not commercially grown in Fiji. Market preference is for imported celery that has thick crisp stems.
<i>Garlic</i>	Low	Above 80 percent	Low	All garlic that is imported is Chinese garlic and it is very affordable.
<i>Leek</i>	Low	Above 80 percent	Low	Leeks are not grown locally as they prefer much cooler weather. They are an insignificant share of total vegetable imports.
<i>Shallots</i>	Low	Above 80 percent	Low	Shallots are an insignificant share of total vegetable imports.
<i>Sprouts</i>	Low	Below 20 percent	High	Both locally produced and imported, sprouts represent an insignificant share of total vegetable imports.
<i>Carrot</i>	Low	Above 80 percent	Medium	Further review could be conducted on the feasibility of local carrot production for supplying the tourism sector.



FRUITS SEGMENT

Total fruit demand is FJ \$8.9 million (US \$4.3 million) or nine percent of the total demand from the hotels, of which five percent or FJ \$3.5 million (US \$1.7) is spent on imports, in terms of value. Overall, only 39 percent of the fruit demand is met by imports, much lower than the overall average of all fresh produce imports of 52 percent.

Figure 8. Imported and local fruit demand by hotels based on location in FJD million and percentage



Most of the fruit consumed by the hotel sector is locally produced. It includes papaya, pineapple, watermelon, tomato and, when in season, mangos, oranges and mandarins. Hotels in Denarau, however, use more imported fruit, as they require a wider variety, including fruit that cannot be grown in Fiji, such as apples, grapes and pears, and those with seasonal or limited local production, such as avocado, rock melon and honeydew melon.

Fruit imports

The top six imported fruits (see Table 5) account for 90 percent of total fruit imports by value. Tomato quality and production in the low production season is limited, leading to large imports during this period. Fruits such as apples cannot be grown locally due to unsuitable weather conditions and will continue to be imported. Oranges and avocados are available when in season, and the price is competitive, but they are also imported. Honeydew and rock melon can be grown locally during the main growing months, with an opportunity to increase production and improve linkages between farmers and buyers.

Table 5. Top six fruits by import value FJD

PRODUCE	IMPORTED VOLUME	IMPORTED PRICE	TOTAL IMPORTED VALUE	POTENTIAL FOR INCREASED LOCAL PRODUCTION	LOCAL PRICE
	KG	FJD PER KG	FJD		FJD PER KG
<i>Tomato</i>	110,380	\$11.05	\$1,219,701	Yes	\$4.50
<i>Orange</i>	127,803	\$4.11	\$525,271	Yes, seasonal	\$3.45
<i>Apple</i>	103,889	\$4.42	\$459,190	No	N/A
<i>Rock melon</i>	33,349	\$10.51	\$350,494	Yes	\$5.10
<i>Honeydew melon</i>	34,912	\$9.72	\$339,348	Yes	\$6.50
<i>Avocado</i>	12,890	\$15.59	\$200,950	Yes, seasonal	\$6.00

Table 6 below matches the demand of the imported food item with an assessment of the technical feasibility to produce it locally. Demand is classified as above 80 percent imported, 20 percent to 80 percent imported; or below 20 percent imported. Technical feasibility for local production is assessed as high (product can be easily grown in Fiji), medium (product can be grown but there are technical, knowledge and climate barriers), and low (there is little viability of the product being grown in Fiji). Classification as high potential for import substitution is based on demand being between 20 and 100 percent met by imports and a high or medium technical feasibility for local production.

Observations

Key fruit products with potential for import substitution



Tomatoes are grown locally and production is higher in the cooler months. During the low production season there is very little tomato production. There is a strong opportunity to produce tomatoes during the low production season, either using cover cropping (shade) or growing them on farms that are located in higher altitudes where the temperature is cooler. Tomatoes could also be hydroponically grown. Given that tomato imports represent the highest dollar value for imported fruits and the highest percentage of imported fruits compared to local production, there is a need to further push growing during the low production season; the demand is high and price is favorable during that time.



Oranges grow well in Fiji with seasonal production. There is an opportunity for increased consumption of oranges when in season for use in fruit juices, desserts, semi-processed goods, etc. and to replace other fruits.



Honeydew melons grow well during the cooler months, but there has not been a focus on their production in Fiji. There is potential for production of more local honeydew melon, as the study has identified the demand for this by hotels.



Rock melon grow well during the cooler months, but there has not been a focus on their production in Fiji. There is potential for production of more local rock melon, as the study has identified the demand for this by hotels.

Temperate fruits, such as apples and pears, present an opportunity to be partly substituted by local fruits. For example, when mango is in season, it was observed that the demand for imported fruit is lower, and when local mandarins are in season, the demand for imported oranges and mandarins decreases. Tourists are keen to sample local fruits and hotels could improve their services by providing a good selection of local tropical fruits for breakfast. Financially this is better as “in season” fruits are generally cheaper than the imported alternative.



Demand for the following fruits is being met 100 percent by local producers:

- banana
- breadfruit
- bush lemon
- coconut (mature)
- coconut (young, for drinking)
- guava
- jack fruit
- kumquat
- lime
- mango
- papaya/pawpaw
- passionfruit
- pineapple
- vudi - ripe
- watermelon

Table 6. Prioritized list of fruits with potential for import substitution

PRODUCE	PRIORITY FOR IMPORT SUBSTITUTION	TOTAL PERCENTAGE IMPORTS OF VOLUME DEMAND	FEASIBILITY OF LOCAL PRODUCTION	COMMENTS
Orange	High	Above 80 percent	High	Oranges grow well in Fiji when in season. There is opportunity to further promote oranges to hotels during this time.
Honeydew melon	High	Above 80 percent	High	There is potential for further production to supply hotels.
Tomato	High	20 percent – 80 percent	High	Tomatoes grow well in the main growing season. There is potential for more production in the low production season.
Rock melon	High	20 percent – 80 percent	High	There is a small market for rock melon and some is grown locally during the cooler months.
Apple	Low	Above 80 percent	Low	All apples are imported, as the climate is not suited for production.
Avocado	Low	Above 80 percent	High	Avocados grow well in Fiji, but they fruit only when in season and there is no possibility of growing them in the low production season.
Strawberry	Low	Above 80 percent	Medium	Strawberries can be grown locally, but farmers would need a commercial variety that has good yields, is heat tolerant, and has a sweet fruit. Overall, the market size is still small.
Grape	Low	Above 80 percent	Low	All grapes are imported, as the climate is not suited for grape production.
Pear	Low	Above 80 percent	Low	All pears are imported, as the climate is not suited for pear production.
Kiwi	Low	Above 80 percent	Low	All kiwi fruit is imported, as the climate is not suited for kiwi fruit production.
Grapefruit	Low	Above 80 percent	High	There is local grapefruit available when in season.
Plum	Low	Above 80 percent	Low	All plums are imported, as the climate is not suited for plum production.
Mandarin	Low	20 percent – 80 percent	High	Mandarins grow well and are seasonal. Mandarins are also imported.
Lemon	Low	Below 20 percent	High	Lemons grow well in Fiji and are seasonal.

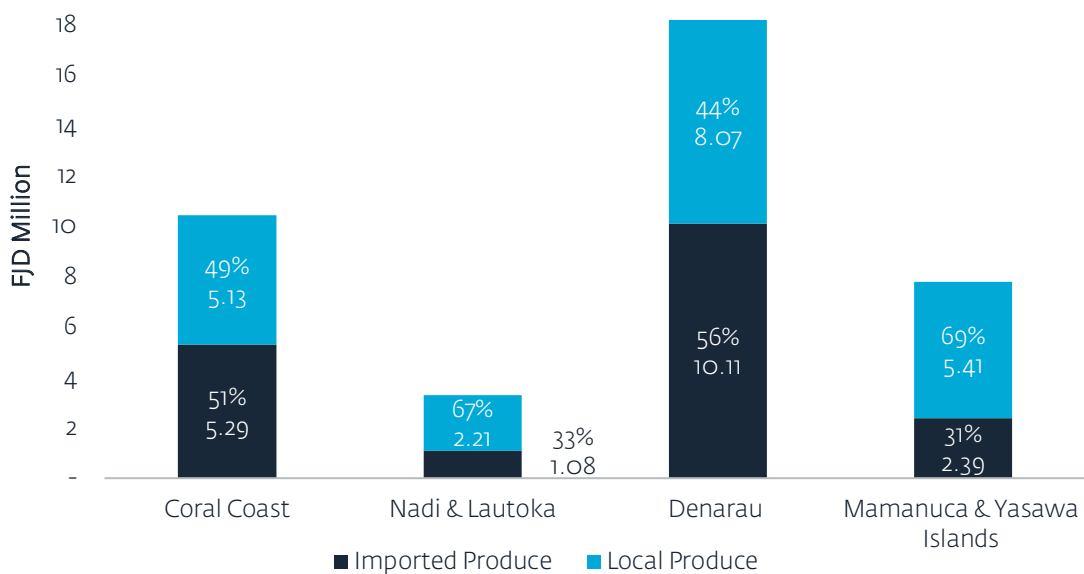


MEAT, POULTRY AND SEAFOOD SEGMENT



Meat, poultry and seafood demand is worth FJ \$39.7 million (US \$19.3 million), and is estimated to be 53 percent of the total demand from the hotel sector. Of this, 25 percent or FJ \$18.9 million (US \$9.2 million) is spent on imports, in terms of value. Overall 48 percent of all meat, poultry and seafood demand is met by imports.

Figure 9. Imported and local meat, poultry and seafood demand by hotels based on location



The larger hotels in Denarau and the Coral Coast require more imported meats and seafood than do hotels in the other areas. This is based on larger hotels' preferences for imported meat due to taste, quality and food safety standards that are met better by imported meat. Given their facilities, large hotels are also able to import and store large quantities of frozen meat, which is cheaper and more efficient.

Meat, poultry and seafood imports

Of the top five imported meat and seafood products, beef tops the list. These five products account for 86 percent of meat and seafood imports and are valued at FJ \$16.2 million (US \$ 7.9 million). Imported fish is mostly salmon and other cold-water species that cannot be sourced locally.

Table 7. Top five meat and seafood items by import value

PRODUCE	IMPORTED VOLUME	IMPORTED PRICE	TOTAL IMPORTED VALUE	POTENTIAL FOR INCREASED LOCAL PRODUCTION	LOCAL PRICE
	KG	FJD PER KG	FJD		FJD PER KG
<i>Beef</i>	221,582	\$32.00	\$7,090,629	Yes	\$17.00
<i>Prawns</i>	92,922	\$32.00	\$2,973,490	Yes	\$35.00
<i>Lamb</i>	170,758	\$16.00	\$2,732,125	No	N/A
<i>Bacon</i>	130,868	\$20.00	\$2,617,351	Yes	\$18.00
<i>Fish</i>	26,468	\$31.00	\$820,523	No	\$16.50

Table 10 below matches the demand of imported food items with an assessment of the technical feasibility of producing them locally, resulting in a determination of low, medium and high for import substitution.

Observations

Meat and seafood products, such as beef, prawns, and bacon, have the potential to be supplied locally. These products will need product-specific interventions and warrant further analysis.

While there is local beef supply, a sizeable amount is imported. With local cuts of meat not meeting the standard of larger hotels or their customer preference, there is opportunity to identify what, if anything, could be done to improve local beef supplies to hotels.

The tourism industry consumes a large amount of imported prawns, and these are mainly imported, frozen. While there are some locally grown prawns available in the market, suppliers have not been able to fully penetrate the hotel market. There is also a supply of local freshwater prawns by smallholder farmers, achieved with support from the Ministry of Fisheries. There is a need for further review and analysis of the prawn sector to identify opportunities for import substitution.

According to data obtained, hotels consume a large amount of bacon. Local bacon is either locally manufactured or imported pork belly that is then cured in Fiji. While there is locally grown and good quality pork available in the market, some locally manufactured bacon is made with imported pork and a large amount of bacon consumed by hotels is imported. Further review of this product segment is needed, as there may be potential for increased pork production within Fiji to cater for the demand for pork-based products such as bacon.

Given that hotels see imported meat and seafood as more consistent in quality, size and availability, and has met certain food safety requirements for imports, there is an added incentive for hotels to source imported meat. For special cuts of meats and better quality meats that the larger hotels require for their western dishes, imports are still the main, and probably only way, to meet this customer demand at the moment.

Table 8. Prioritized list of meat, poultry and seafood with potential for import substitution

PRODUCE	PRIORITY FOR IMPORT SUBSTITUTION	TOTAL PERCENTAGE IMPORTS OF VOLUME DEMAND	FEASIBILITY OF LOCAL PRODUCTION	COMMENTS
Prawns	High	Above 80 percent	High	While there are some locally farmed saltwater and freshwater prawns available, there is a need to further analyze and understand the opportunities for import substitution.
Beef	High	20 percent - 80 percent	High	Beef supplied to hotels is a mix of local and imported beef. There is a need to continue working on improving the quality of local beef and address disease issues.
Bacon	High	20 percent - 80 percent	High	Bacon is produced using both local and imported pork. There is an opportunity for more local bacon.
Pork	Medium	Below 20 percent	High	Pork is grown locally, and there is imported pork that is used in the processing of pork products.
Lamb	Medium	Above 80 percent	Low	All lamb is imported.
Mussels/Oysters	Low	Above 80 percent	Low	While there is a very small supply of local oysters, most of the oysters and mussels purchased are imported.
Scallop	Low	Above 80 percent	Low	All scallops are imported.
Octopus/Squid	Low	Above 80 percent	High	Octopus and squid are both locally sourced and imported. However, most of the octopus and squid purchased by hotels is imported.
Veal	Low	Above 80 percent	High	Veal is an insignificant share of total demand.
Lobster	Low	20 percent - 80 percent	High	Lobsters are mostly locally sourced, but some bug lobsters are imported.
Smoked Fish	Low	20 percent - 80 percent	Medium	Smoked fish is produced locally and smoked salmon is imported.
Fish	Low	Below 20 percent	High	Most fish are caught in Fiji waters. There is some imported salmon that is used by hotels.
Crab	Low	Below 20 percent	High	Mud crabs are locally sourced from people who catch crabs and there is a crab farm working on mud crab production.



Demand for the following meats and poultry items is being met 100 percent by local producers:

- kai (local clams)
- chicken



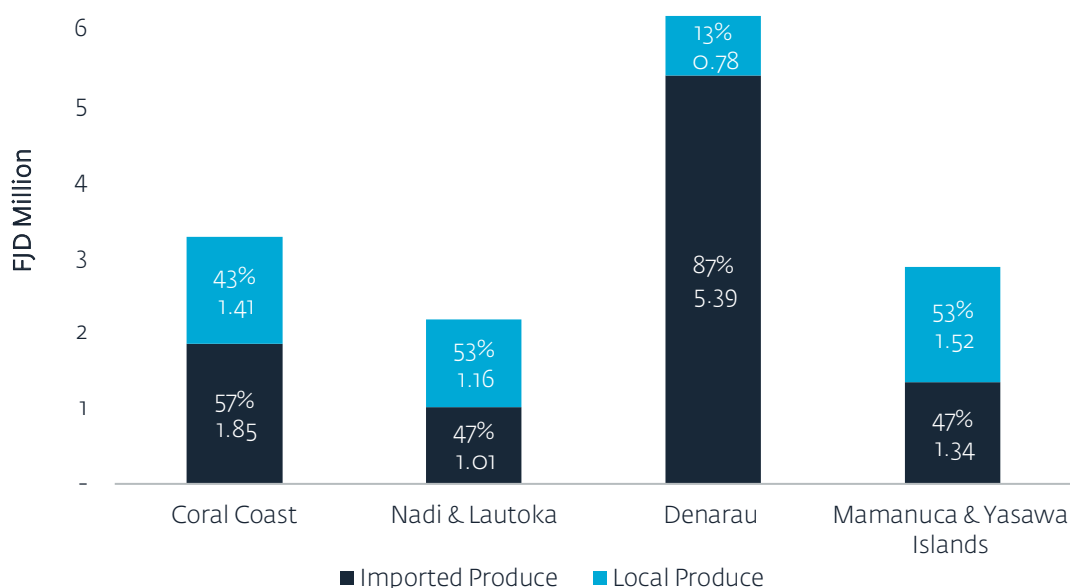
DAIRY SEGMENT

Dairy demand is worth FJ \$14.5 million (US \$7.1 million), and is estimated to be 19 percent of the total demand from the hotel sector. Of this, 12.9 percent or FJ \$9.6 million (US \$4.7 million) is spent on imports, in terms of value. Overall, 66 percent of all dairy demand is met by imports.

It is important to note that a significant portion of local dairy products, including milk, cheese and yogurt manufactured in Fiji, are made using imported milk powder and other inputs. This further increases the percentage of imported dairy products. Local dairy volume and value estimates in this report are based on hotels reporting purchases of local branded products from Rewa Dairy and local yogurt from other local producers.

According to the Fijian Government classification and as animal byproducts, eggs and honey are included in the dairy category. The total value of egg demand is FJ \$2.7 million and the total value of honey demand is FJ \$175,800. Both these products are 100 percent locally produced and supplied.

Figure 10. Imported and local dairy demand by hotels based on location FJD million and percentage



Hotels in Nadi, Lautoka and the Mamanuca and Yasawa Islands do not use as much imported dairy products as do the Denarau and Coral Coast hotels. In Nadi and Lautoka this is due to the budget to mid-range market base that has lower expectations of available food options and quality. In the Mamanuca and Yasawa Islands, reduced dairy consumption improves food safety, as transport of food supplies and electricity are less consistent. The high-end hotels in the Islands region also have more flexibility to create menus with limited dairy due to their smaller size. The market base in both these areas does not require the same range of dairy products that larger hotels in Denarau and along the Coral Coast offer. The mid-range and budget hotels that use milk, cheese and yogurt are less particular about the product taste; however, large, high end and premium hotels in Denarau and the Coral Coast require the full range of dairy products that are high quality and have a consistent supply.

Table 9. Top four dairy products by import value

PRODUCE	IMPORTED VOLUME	IMPORTED PRICE	TOTAL IMPORTED VALUE	POTENTIAL FOR INCREASED LOCAL PRODUCTION	LOCAL PRICE
	KG	FJD PER KG	FJD		FJD PER KG
<i>Cheese</i>	189,851	\$24.00	\$4,556,413	Yes	\$15.50
<i>Butter</i>	134,118	\$21.50	\$2,883,531	No	\$17.40
<i>Milk</i>	413,036	\$2.10	\$867,375	Yes	\$2.20
<i>Cream</i>	73,426	\$9.50	\$697,546	No	\$6.40

The lack of local milk supply is one of the biggest supply side challenges facing the local dairy industry. Fiji Dairy imports milk products that are then processed and packed locally, when necessary. To cater for the local demand of liquid milk, milk powder is imported, reconstituted and packaged.

Most large hotels prefer to purchase imported dairy products. Locally produced cheese and cream do not meet the same standards and taste levels and cannot compete with imported cheese and cream; so hotel preference is for imported products. Butter is both imported and locally produced. Hotels noted that quality, taste and packaging of imported butter is preferred.

Table 10 matches the demand of the imported food item with an assessment of the technical feasibility to produce it locally, resulting in a determination of low, medium and high for import substitution.

Table 10. Prioritized list of dairy items with potential for import substitution

PRODUCT	PRIORITY FOR IMPORT SUBSTITUTION	TOTAL PERCENT IMPORTS OF VOLUME DEMAND	FEASIBILITY OF LOCAL PRODUCTION	COMMENTS
<i>Cheese</i>	High	Above 80 percent	Medium	Cheese is produced locally and imported. More local milk could be used for cheese production as it is a higher value product. Quality and variety of local cheese need to be improved.
<i>Butter</i>	Low	20 percent - 80 percent	Low	Butter is produced locally and imported. Local butter is often produced with imported ingredients.
<i>Cream</i>	Low	Above 80 percent	Low	Cream is locally produced and imported. Imported cream is much better quality than local cream and thus preferred by hotels.
<i>Milk</i>	Low	20 percent - 80 percent	Medium	Milk is locally produced and imported. Some milk is imported as either milk or milk powder. There is duty on imported milk to protect the local industry, with the exception of Fiji Dairy that has a duty concession on milk.
<i>Yogurt</i>	Low	20 percent - 80 percent	Medium	Yogurt is produced locally from local and imported ingredients and imported.



HERBS SEGMENT

The value of herbs demand from the hotels in Fiji is 1.6% of the total consumption by hotels, insignificant in terms of the total import demand value. The total imports are estimated to be only FJ \$1.16 million (US \$0.57 million). Most hotels source herbs locally and only herbs that are not commonly grown are imported.

Figure 11. Imported and local herbs demand by hotels based on location FJD thousands and percentage

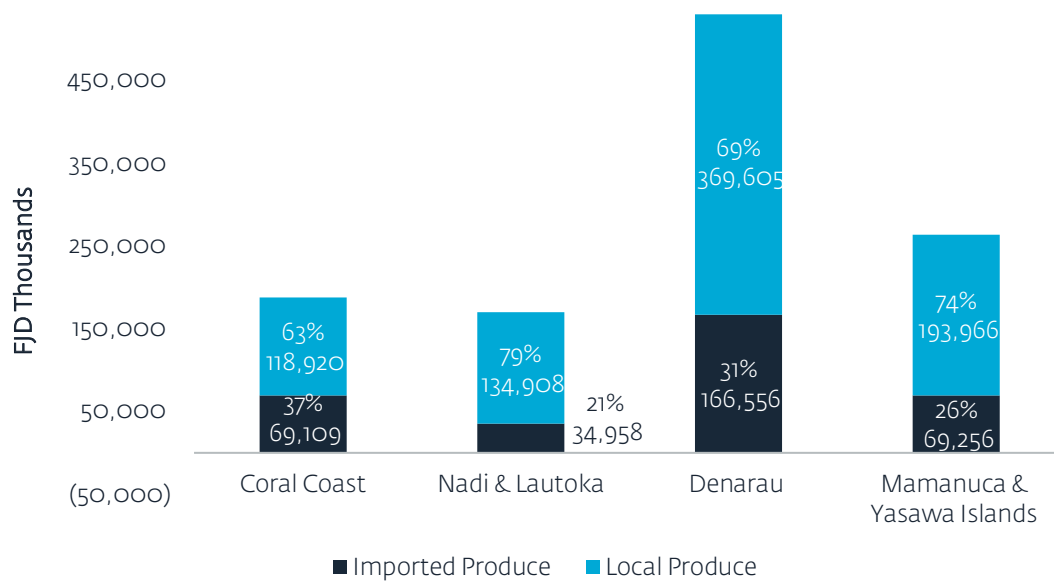


Table 11. Top five herbs by import value

PRODUCE	IMPORTED VOLUME	IMPORTED PRICE	TOTAL IMPORTED VALUE	POTENTIAL FOR INCREASED LOCAL PRODUCTION	LOCAL PRICE
	KG	FJD PER KG	FJD		FJD PER KG
<i>Rosemary</i>	995	\$91.67	\$91,195	Yes	\$60.00
<i>Chives</i>	868	\$91.67	\$79,559	Yes	\$40.00
<i>Parsley curly</i>	1,556	\$26.58	\$41,347	Yes	\$21.50
<i>Pepper *</i>	852	\$29.00	\$24,710	Yes	\$ --
<i>Parsley flat</i>	683	\$33.00	\$22,539	Yes	\$27.50

*All pepper sourced by hotels surveyed for this report is imported.

The herbs section as a whole is quite small and may not be required to be treated as a priority at this stage. There are locally grown herbs such as basil, coriander, spring onion, lemongrass, curry leaf, that are readily available in the local market. There is, however, potential for more local production of fresh rosemary, chives, and curly and flat parsley. These herbs can be grown in the cooler months and during the end of each growing season.



Demand for the following herbs is being met 100 percent by local producers:

- ginger
- cilantro/coriander leaves
- lemongrass
- curry leaves
- mint
- spring onion
- tamarind

Table 12. Prioritized list of herbs with potential for import substitution

HERB	PRIORITY FOR IMPORT SUBSTITUTION	TOTAL PERCENTAGE IMPORTS OF VOLUME DEMAND	FEASIBILITY OF LOCAL PRODUCTION	COMMENTS
<i>Rosemary</i>	High	Above 80 percent	Medium	Some rosemary is grown locally and performs better during the cooler months. Rosemary is also imported.
<i>Parsley - curly</i>	Medium	20 percent - 80 percent	High	Curly parsley is grown locally during the cooler months and imported in warmer months.
<i>Parsley - flat</i>	Medium	20 percent - 80 percent	High	Flat parsley is grown locally in the cooler months and imported in warmer months.
<i>Chives</i>	High	20 percent - 80 percent	High	Chives are grown locally.
<i>Paprika</i>	Medium	Above 80 percent	Medium	Paprika is imported in dried powder form. This is the dried powder that is made from red capsicum. The focus should be on production of colored capsicum rather than on dried capsicum production.
<i>Turmeric</i>	Medium	Above 80 percent	High	Hotels may use dried turmeric powder (<i>haldi</i>) as an ingredient in curries and other dishes. This is both locally made and imported.
<i>Pepper</i>	Medium	20 percent - 80 percent	Medium	A small amount of pepper is grown, processed and packed locally. Almost all pepper used is imported.
<i>Vanilla</i>	Low	20 percent - 80 percent	Medium	Vanilla beans and essence are locally produced but the majority of vanilla essence and imitation vanilla is imported. The volume purchased is too low to consider.
<i>Oregano</i>	Low	20 percent - 80 percent	Medium	Oregano can be grown locally, but most hotels use dried oregano. The volume purchased is too low to consider.
<i>Dill</i>	Low	Below 20 percent	Medium	Some dill is grown locally during the cooler months and can be imported. It is an insignificant share of the herb market.
<i>Sage</i>	Low	Below 20 percent	Medium	Sage can be grown locally during the cooler months and is also imported in minute volumes. It is an insignificant share of the herb market.
<i>Nutmeg - Dried</i>	Low	Below 20 percent	Medium	Dried nutmeg is an insignificant share of the herb market.
<i>Cinnamon - Dried</i>	Low	Below 20 percent	High	Local and imported dry cinnamon is available in the market. This product represents an insignificant share of the herb/spice market.
<i>Basil</i>	Low	Below 20 percent	High	Basil is grown locally and is available all year round.



PACKAGED TROPICAL JUICE

Packaged tropical juice demand is worth FJ \$1.7 million (US \$0.83 million), and is estimated to be two percent of the total demand from the hotel sector. Of this, almost 90 percent or FJ \$1.5 million (US \$0.73 million) is met by imported tropical juice, in terms of value.

Not all respondents provided data on their tropical juice purchases, so estimates may not be reliable. However, the available data show that there is an opportunity for locally made fruit juices or for locally grown green coconuts that could be used as a substitute. Hotels prefer imported juice, as it is less expensive and better packaged, and the supply is more reliable.

There is an opportunity to promote the use of local fruits, such as oranges, papaya, watermelon, pineapple, passionfruit, mangoes, mandarins, limes and lemons, that can be used to make fresh local fruit juices. This can either be done at the hotel or by a local manufacturer. To be commercially viable and accepted by the hotels, improved processing and packaging by the manufacturer is necessary, as well as an increase in volume to lower the cost and improve supply.



FULL RECOMMENDATIONS

To increase the supply of local fresh produce to hotels, the agriculture sector must take a coordinated approach to addressing the five key challenges identified in this study:

- Lack of networking between key decision-makers in hotels and local producers and suppliers;
- Inconsistent supply (particularly fruits, vegetables, seafood and dairy products);
- Seasonality of produce available locally (particularly fruits and vegetables);
- Poor quality of products (particularly meat, seafood and dairy products); and
- Lack of food safety standards for meat and seafood.

High priority recommendations were outlined in the Summary of Findings section above. The recommendations below include a full set of recommendations for the Ministry of Agriculture; the Ministry of Industry, Trade and Tourism; the Ministry of Fisheries; and the agriculture and tourism sectors including farmers, producers, suppliers and aggregators, hotels, development agencies and other stakeholders.

Overarching

- The newly formed Fiji Agritourism Working Group, a private sector and development agency group, should coordinate with agritourism stakeholders in Fiji to develop policy recommendations, share information and ensure efforts are harmonized across initiatives. A number of development agencies and projects in Fiji support the agriculture sector with a specific focus on linkages to the tourism industry. While results of this study indicate there has been an increase in local sourcing stemming from these past initiatives, coordination among stakeholders is still required.
- MoA should commission further product-specific analysis of the value chain of key products identified as high priority in this study to determine financial and technical feasibility of increased local production. These high priority products account for more than 63 percent (including prawns) of the value of fresh produce imports from hotels in Fiji's main tourism areas. Within the value chain analyses, MoA should assess Fiji's ability to produce these items at a competitive cost compared to imported produce. This will need to take into consideration the recent reduction of import duty from five percent to zero on selected fresh fruits and vegetables,⁽¹⁵⁾ announced as part of the 2018–2019 Fiji National Budget. Competitive costs should take into consideration the willingness of hotels to pay slightly higher prices for locally grown produce, especially during the low production season. Key products include:
 - **vegetables:** potato, colored capsicum (red/yellow/orange), green capsicum, broccoli, lettuce, cauliflower, zucchini, purple cabbage, and green cabbage;
 - **fruit:** tomato, orange, rock melon and honeydew melon;
 - **meat and seafood:** beef, bacon and prawn⁽¹⁶⁾;
 - **dairy:** cheese; and
 - **juice:** package tropical juices.
- The Ministry of Fisheries should continue to support prawn sector development with an increased focus on assisting producers in meeting hotel purchasing needs and requirements, food safety standards and appropriate processing and packaging.
- In addition to individual fresh produce items, MoA should commission further product-specific analysis on value-added and niche items. This includes packaged fruit juice; small packaged food products such as dried fruit; semi-processed food products such as jams, chutneys, frozen purees/pulps; and specialized items like micro greens and sprouts. High-end hotels have expressed interest in purchasing more of these products locally. The overall volume would be lower and production would need to be managed to avoid saturating the market and driving down prices. Regional organizations, such as Pacific Horticulture, the Agriculture Market Access Program (PHAMA) Plus, and the Pacific Islands Private Sector Organisation (PIPSO), should provide technical support to producers to make this transition.

¹⁵ Fruits and vegetables include apples, grapes, oranges, pears, kiwi fruits, strawberries, apricots, peaches, plums, grapefruit, raspberries, cranberries, pomegranates, carrots, mixed vegetables, celery, capsicums, mushrooms, asparagus, leeks, spinach, cauliflower, broccoli and Brussel sprouts (Republic of Fiji 2018–2019 National Budget).

¹⁶ Increased local prawn production is managed by the Ministry of Fisheries.

1

Lack of networking between key decision-makers in hotels and local producers and suppliers

- IFC will pilot a program with hotels to increase their ability to purchase locally grown produce through streamlining procurement systems, increasing market linkages and networking, and improving promotion of local food content to their guests. This will encourage a demand-driven approach, where guests expect locally grown produce to be served. The program will aim to raise awareness with chefs, kitchen staff, purchasing managers, and guests on the range of fresh produce available in the local market. The approach will further incentivize chefs to focus on locally grown produce as demand from guests increases. Hotels like the Shangri-La's Fijian Resort and Spa are already using this technique to their advantage.
- As a part of the pilot, IFC will support specific aggregators identified by hotels to increase their supply by strengthening linkages with farmers. IFC will connect aggregators to the Fiji Agricultural Partnerships Project (FAPP) and other development partners that are already working on increasing farmer output during the low production season.
- IFC plans to partner with the Fiji Chefs' Association to set up networks and field visits for chefs to meet with local suppliers and learn about their products. Chefs have the final purchasing decisions but often do not have full information about available options due to a variety of causes, including turnover of chefs and rent-seeking behavior by purchasing managers. Systematically linking chefs directly to local suppliers can streamline purchasing and support menu development focused on locally grown, seasonal produce. Marketing linkages, such as databases of suppliers and regularly updated product information, are also necessary to ensure that hotels are aware of available produce options.
- The Fiji Agricultural Partnerships Project (FAPP) should coordinate experiential field trips to hotels for their farmers and suppliers so that they can better understand hotel purchasing requirements, receiving procedures and produce standards, and hence increase their overall knowledge of the tourism industry. This will assist them in understanding the motivation behind hotels' strict purchasing requirements and food safety standards.
- Inadequate access to information is a barrier for improving linkages within the sector. MoA needs to better disseminate industry-based information, such as price, product-specific demand, buyers, seasonality and procurement processes, by leveraging web-based and mobile technology and radio to reach rural farmers.
- MoA should implement a pilot program to identify and support five to ten producers and/or suppliers with specialized or niche products that meet minimum hotel purchasing requirements to participate in 2018 Hotel and Tourism Exhibition show (HOTEC – Fiji's prime hotel supply tradeshow). This would act as a unique networking opportunity, where producers and suppliers are able to showcase their products directly to chefs. Participants will require support in tradeshow participation, booth design and set up, marketing, and product demonstrations.
- The Ministry of Industry, Trade and Tourism (MITT) should continue to create opportunities to better integrate the Fijian Made-Buy Fijian Campaign into the tourism sector by targeting visitors, chefs and purchasing managers directly. Visitors can also be targeted through integrating the campaign into Tourism Fiji's marketing initiatives, while chefs and purchasing managers can be targeted through the Fiji Hotel and Tourism Association and the Fiji Chefs Association. The Fijian Made-Buy Fijian Campaign is a Fijian Government initiative, aimed at promoting Fijian Made products and services, both domestically and internationally.
- MoA, through the Ag-trade unit, should continue promoting the use of local fruits and vegetables in hotel menus by training local chefs, using the recipes in ***Kana Vinaka: Contemporary island cuisine*** and by the engagement of Colin Chung and local chefs to conduct similar training for local chefs.

2

Inconsistent supply (particularly fruits, vegetables, seafood, and dairy products)

- The Fiji Agricultural Partnerships Project (FAPP) should include a training module on hotel purchasing requirements and processes (based on information provided by IFC) in their training curriculum for smallholder farmers. FAPP should include specific modules on the business skills and ethics required to successfully sell fresh produce to hotels. The curriculum should include detailed information on hotel purchasing requirements, improving competitiveness of products against imports, expectations of regular communication with aggregators and hotels, and general business skills.
- As part of the pilot program with hotels, IFC will create a guide that can be used to upskill key hotel suppliers on hotel purchasing requirements, including projected demand for specific products, seasonal demands, facility and infrastructure standards, computer-generated invoicing, product quality and packaging. For prawns, IFC will channel the information to the Ministry of Fisheries to support their activities on local production of saltwater and freshwater prawns.
- MOA and other development partners should use the results of this study to prioritize support for increased local production of the fresh produce items with high potential for import substitution identified in this study. Existing programs support farmers through the distribution of seeds, seedlings, agriculture inputs, grants, incentives and technical assistance. Incentives and grants should aim to promote investment in farming using modern equipment capable of meeting volume and quality demands. To compete with imported produce on quality, volume and price, farm production capacity must increase through industrial and modern farming techniques. MoA should assess, learn from and replicate successes of the Sigatoka Valley Development Program.
- The Fiji Agricultural Partnerships Project (FAPP) should use its grant financing activity to support aggregators to increase growing during the low production season. Their financing model was developed and tested during the recently closed Partnership in High Value Agriculture Project. FAPP provides matching grant financing to entrepreneurs who wish to procure produce from smallholders in remote rural communities. In the model, entrepreneurs and FAPP each contributes 25 percent of the total cost of investment with a 50 percent loan from a partner bank.
- Fiji smallholder farmers, suppliers and aggregators should use the findings of this report to identify opportunities for investment in the production and supply of specific products to hotels. The report should be used to support applications to grant funds, such as PIPSO's Innovation Grant Facility and MoA's funding programs like the food security program or the Sigatoka Valley program, as well as to support loan applications where appropriate.

3

Seasonality of produce available locally (particularly fruits and vegetables)

- In order to meet volume and quality demands, especially during the low production season, the private sector should invest in agriculture-related infrastructure with a focus on modern equipment and improved farming techniques, such as hydroponics, aquaponics, cover cropping and improved irrigation facilities where applicable. The results of this study, supported by follow-on reviews of specific products, can be used to support grant or loan applications where appropriate.
- The Fiji Agricultural Partnerships Project (FAPP) and MoA should prioritize the growing of the high value fresh produce items identified in this report during the low production season in areas of high elevation. Certain crops can be produced in the low production season in areas of high elevation where the weather is cooler. Low production season growing should be focused on crops with higher values to ensure that farmers can maximize their returns. IFC will support these efforts by working with hotels to specify low production season produce needs and channeling this information to FAPP.
- IFC will work with MoA to update and create a “hotel friendly” seasonal crop chart. This chart could be created to inform chefs on seasons for locally grown produce and support farmers in identifying low production season opportunities.
- MoA should improve the data and information provided to farmers and improve data availability, leveraging web-based and mobile technology, radio, and road shows to production areas. Information should include key agricultural variables, such as weather forecasts, crop data, information on improved seeds, farming techniques, and cropping planning. This should be done in parallel with the industry-based information dissemination as recommended above.

4

Poor quality of products (particularly seafood, meat and dairy products)

- IFC will work with the Fiji Chefs' Association, hotels and MoA to create or update vegetable and fruit grading charts that detail the quality, size, color, freshness and packaging requirements for the main items sourced by the hotels. The charts will support farmers in harvesting at the appropriate time, and in grading and sorting fresh produce items based on hotel requirements versus local market requirements. The charts can be disseminated to farmers through MoA and The Fiji Agricultural Partnerships Project (FAPP).
- Suppliers and aggregators should continue to invest in cool storage facilities along the supply chain and in cooler trucks to support improved post-harvest handling, packing and storage and to reduce wastage. Improvement in the transportation and storage of fresh fruits and vegetables has improved over the past five years as more aggregators are implementing internal cool chains. Suppliers and aggregators need to continue to improve in this area. MoA should continue to support suppliers and aggregators that supply hotels through the improvement of infrastructure, such as cold storage systems, to improve the quality of fruits and vegetables supplied to the hotels.
- MoA should identify and disseminate information on appropriate seed varieties and crop planning for improved quality (taste, size and color in particular) of the fresh produce items identified as high priority in this study. This can be done by updating the crop information in their current Farm Management Manual. MoA's extension officers can then advise farmers on the seed varieties and farming techniques that will produce vegetables and fruits that meet hotel quality requirements and increase farm yield.

- MoA should ramp up implementation of their 2016 Fiji Livestock Sector Strategy that identifies the need for improved quality and food safety standards for farmers to meet the requirements of the tourism industry. Specific focus should be on setting meat-grading standards, improving cattle variety for meat and dairy, and better feed.

5

Lack of food safety standards for meat and seafood

- IFC will work with hotels to determine the market demand for meat and seafood processors and suppliers to have a recognized food safety standard based on Hazard Analysis and Critical Control Points (HACCP) Certification.⁽¹⁷⁾ HACCP Australia (Fiji) Limited, an Australian company operating in Fiji, has developed a Critical Control Points Lite (CCP Lite) for Restaurants and is interested in developing a similar product for fresh produce suppliers, given sufficient demand.
- Should hotels express demand for suppliers to adopt this standard, HACCP Australia (Fiji) Limited should develop and test the CCP Lite standard for meat and seafood suppliers and certify at least two suppliers. Fulfilling this recommendation will depend on suppliers understanding the business case for certification – that an investment in food safety standards will increase their ability to sell to hotels. CCP Lite is seen as a stepping stone to full HACCP certification.

¹⁷ HACCP is a globally recognized food safety standard that uses a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes.

Annexes



ANNEX 1. KEY STAKEHOLDERS

Key stakeholders that support Fijian farmers and agriculture sector development are listed below.

1. The **Ministry of Agriculture (MoA)** facilitates private sector development, promotes food security, improves produce diversification in identified crops and livestock, and ensures the sustainable development of the non-sugar agriculture sector in Fiji. MoA implements a range of projects, three of which are described below.
 - The Sigatoka Valley Development Program targets farmers in the Sigatoka Valley who supply hotels and export markets. Assistance includes procurement of seeds, seedlings and technical advice. The program also involves the procurement of greenhouse materials to encourage year-round availability of vegetables and fruits in order to maintain consistency of supply.
 - Participation at the annual HOTECH tradeshow by the AgTrade unit to promote local agricultural products to the tourism market.
 - The Agro Processors Infrastructure Support program aims to strengthen the supply chain system of local suppliers, exporters and processors. Through improvement of packing facilities, establishment of a cooler storage system and proper transportation, this ensures a complete supply chain system.
2. The **Ministry of Industry, Trade and Tourism (MITT)** has the mandate for the development of industry, trade and tourism in Fiji. It focuses on creating an enabling environment for business development and building investor confidence, both domestically and in international markets. The Tourism Unit formulates and implements policy initiatives, plans and strategies, including the Fijian Tourism Development Plan (FT 2021), to develop the tourism industry in a sustainable manner whilst ensuring greater retention of the tourist dollar. The Ministry, through FT 2021 sets the policy guideline for the sustainable development of the tourism sector. The following strategies in the FT 2021 and key Ministry projects specifically support the linkages between the tourism and agriculture sectors:
 - Focusing on increasing linkages between the tourism and the agriculture and aquaculture sectors by developing a recognition and reward scheme for service providers prioritizing locally grown produce, improving synergies between agriculture and tourism stakeholders, and promoting Fijian Grown and Fijian Organic campaigns in the tourism sector.
 - Promoting Fijian Grown, Fijian Crafted and Fijian Organic, as part of the Fijian Made-Buy Fijian Campaign to encourage more local consumption of locally produced, designed and packaged products. Fijian Grown specifically promotes locally grown agriculture products.
 - MITT, the Ministry of Health and Medical Services and the Fiji Hotel and Tourism Association are developing a Minimum Food Safety Handling Guide targeted at small and medium enterprises including food vendors supplying the tourism industry. Once the Guide is finalized, awareness and training will be conducted jointly by the key agencies involved.
 - MITT and MoA have partnered to train chefs on how to better use local produce and cook traditional and contemporary Fijian cuisine. This is in partnership with local celebrity chef Colin Chung and follows the recent launch and publication by MoA of his book *Kana Vinaka: Contemporary island cuisine*, a cookbook featuring local dishes.
3. The **Australian Centre for International Agricultural Research (ACIAR)** works in developing countries by applying research to improve agricultural productivity, sustainability and food system resilience in developing countries. ACIAR is implementing a range of projects in the Pacific, including the Pacific Agriculture Research and Development Initiative 2 (PARDI 2) that seeks to build the capacity of existing agribusinesses and launch new ones. ACIAR supported the Participant Guarantee Scheme (PGS) to link tomato farmers to hotels in Fiji.
4. The **Fiji Chefs' Association** is an association of chefs and hospitality professionals in restaurants and hotels. The association comes under the umbrella of the World Association of Chefs' Societies and focuses on developing young chefs, sharing knowledge and working with other associations to further develop their industry.
5. The **Fiji Agricultural Partnerships Project (FAPP)** is a new development project with the overall goal to reduce hardship in remote rural communities. The project's objective is to promote sustainable farming and business partnerships for small-scale producers in remote areas, particularly in the highlands.

They have currently identified four target areas in the inner region of Fiji. Partners in Community Development Fiji (PCDF) is FAPP's lead implementing partner.

6. The **Fiji Agritourism Working Group** is a newly formed private sector association with goals to develop a Fiji Agritourism Agenda to submit to the national government and support the work of the Fijian Government and agencies within the Fiji agritourism sector.
7. The **Fiji Crop and Livestock Council (FCLC)** was established to represent the needs of an estimated 60,000 non-sugar farmers to the Fijian Government and industry stakeholders. The FCLC office is located in Lautoka and has various commodity associations that fall under its umbrella.
8. The **Food and Agriculture Organization (FAO)** works in the Pacific to develop and implement programs that improve food security, nutrition, agriculture and rural development. FAO has conducted a similar import substitution study for the hotel sector in Samoa, and is currently working to promote food and nutrition security with the aim of increasing the production of nutritious healthy foods and strengthening climate resilience in their target areas of focus.
9. **HACCP Australia (Fiji) Limited** is a private sector company specializing in food safety for a range of businesses, HACCP, HACCP certification and CCP Lite.
10. The **International Fund for Agriculture Development (IFAD)** is a United Nations agency focused on eliminating poverty, hunger and malnutrition through agriculture sector development. It is supporting the Fiji Agricultural Partnerships Project (FAPP).
11. The **Market Development Facility (MDF)** is a private sector development program funded by the Government of Australia. It operates in three market sectors in Fiji: tourism, horticulture and export processing. It supports private sector businesses where opportunities have been identified to promote growth within the business, and in turn to more opportunities for employment, producers, suppliers and consumers.
12. The **Pacific Community (SPC)** is the leading technical and scientific development organization in the Pacific. It works on a range of sectors, and its Land Resources Division (LRD) focuses on agricultural development. LRD works on improving food security through projects that communicate market information and promote new technologies. It launched the Pacific Organic and Ethical Trade Community (POETCom), which promotes organic agriculture through information sharing, capacity building and certification. SPC also implements the Improvement of Key Services to Agriculture project that supported the transition of sugarcane farmers to other agriculture production.
13. The **Pacific Horticulture and Market Access (PHAMA)** project is a regional project supported by the Government of Australia. It provides technical assistance to Pacific countries to improve regulatory issues associated with exporting and gaining access to new export markets. PHAMA is entering its second phase as PHAMA Plus and will relaunch in late 2018.
14. The **Pacific Island Farmers Organization Network (PIFON)** is the regional organization for Pacific national farmer organizations. Its aim is to promote capacity building and support the exchange of ideas, success stories, and expertise among farmer organizations and private sector partners.
15. The **Pacific Island Private Sector Organisation (PIPSO)** has as its mission to promote private sector growth within the region. It works with national private sector organizations and assists Pacific businesses, including agribusinesses. PIPSO also supports various small and medium-sized enterprises and assists in areas that promote growth, business competitiveness and financial training. PIPSO launched the Promoting Nutritious Food Systems in the Pacific Project and its Call for Applications – Innovation Grant Facility. Both these are in partnership with European Union's Technical Centre for Agricultural and Rural Cooperation and International Fund for Agriculture Development. PIPSO is working on developing a website to share sourcing stories from around the world.
16. The **Taiwan Technical Mission (TTM)** provides agricultural expertise and extension support to various groups of farmers in the Western Division of Fiji. It is based in the Sigatoka Valley and works closely with various farmers and the Ministry of Agriculture. It produces seedlings for farmers to purchase and provides technical support to farming groups. It also grows and sells crops from its farm and has just released a new commercial variety of guava. TTM has been instrumental in the success of some agriculture programs and has supported papaya farmers by supplying them with seedlings and providing extension services.



ANNEX 2. MAJOR FRESH PRODUCE SUPPLIERS

There are many aggregators, farmers and small suppliers who grow and supply local and imported fruits and vegetables to hotels. Some specialize in certain items (e.g. banana, pineapple, herbs). Trade occurs between suppliers and other smaller traders. If suppliers run out of stock, they purchase from another supplier or aggregator to ensure their customers' orders are met. The industry is competitive and over the past five years, supplier standards have improved tremendously with a recognition of the importance of cool chain and food safety. (Refer to Table 13.)

Given the number of well-established importers, processors and distributors operating in the local market, and the ease with which products can be imported (due to well established shipping routes and daily flights), the market is very competitive. Any one of these companies is capable of moving into other product lines if they feel there is a market for this product. There is much overlapping supply of these products.

The vast majority of poultry and eggs are supplied to hotels by Goodman Fielder International (Fiji) Ltd that sells Crest brand poultry products, Ram Sami that supplies eggs, and Future Farms Ltd that sells Rooster branded poultry products. Goodman Fielder also imports and sells Meadow Fresh dairy products from New Zealand. Large distributors, such as Punjas, CJ Patel and Tappoos, supply imported dairy products and packaged juice to hotels along with other processed food items. (Refer to Table 14.)

Table 13. List of key fruit and vegetable suppliers

SUPPLIER NAME	TYPE	SOURCING	MAIN PRODUCTS SUPPLIED TO HOTELS	LOCATION
Ali's Farm Fresh Produce	Importer, wholesalers and distributor	Overseas suppliers and local farmers, both large and small	Imported and local fresh fruits and vegetables	Lautoka
Jetset Suppliers Limited	Importer, wholesaler and distributor	Overseas suppliers and local farmers, both large and small	Imported and local fresh fruits and vegetables	Nadi
Turners and Growers Fiji Limited	Importer, wholesaler and distributor	Overseas suppliers and a few small farmers	Fruits and vegetables, frozen meats	Nadi and Suva
Farm Boy	Local aggregator, wholesaler and vendor	Large number of farmers and some importers	Local and imported fresh and semi-processed fruits and vegetables	Namaka Market (Nadi)
Five Star Foods	Importer and distributor, HACCP Certified	Overseas suppliers and a few local farmers	Imported and local fruit and vegetables. Imported meats and seafood. Niche items.	Denarau
Ranviz Fresh Farm Produce	Importer, Aggregator and wholesaler	Overseas suppliers, and local farmers both large and small	Local and imported fresh produce	Korovuto, Nadi
Chettys Valley Fresh	Local aggregator, farmer and distributor	Own farm, local farmers both large and small, and importers	Local fruits and vegetables and imported produce when local produce is not available	Sigatoka Valley
Joese Farm Produce Limited	Grower, aggregator, distributor and retailer	Own hydroponic farm, local farmers, importers, and other aggregators	Lettuce, tomatoes and cucumbers with hydroponics and other crops conventionally.	Colo-i-Suva and Tamavua
Paradise Farms	Hydroponic farm	Own hydroponic farm	Variety of lettuces	Nausori Highlands
Grace Road	Large farmer and distributor	Own farm	Rice, passionfruit, cassava, lettuce, cabbage, rock and honeydew melon, tomato, cucumber	Navua, Nadi and other parts of Fiji
Freddy's Marketing	Wholesaler and distributor	Local farmers and Importers	Imported and local fresh fruits and vegetables	Nadi
B.L. Naidu and Sons Limited	Importer, wholesaler, distributor and retailer	Overseas suppliers	Imported select fruit, vegetables, spices, etc.	Sigatoka and Suva
Garden Farm Fresh	Wholesaler and distributor	Local farmers both large and small, and importers	Local fruits and vegetables and imported produce when local produce is not available.	Nadi
Nadi Bay Herbs	Farmer, HACCP Certified	Own farm	Herbs and local vegetables	Nadi

Table 14. List of key dairy, meat, poultry, prepacked juice and seafood suppliers

SUPPLIER NAME	TYPE	SOURCING	MAIN PRODUCTS SUPPLIED TO HOTELS	LOCATION	FOOD SAFETY STANDARDS
<i>Fiji Dairy Limited</i>	Processor and supplier	Dairy Farmers of Fiji. Imported ingredients for producing milk and milk products	Dairy	Suva	ISO22000, HACCP and GMP certified
<i>Western Dairy T/A Pacific Fine Foods</i>	Manufacturer	Local and imported	Dairy and tropical fruit juice	Nadi	
<i>Danny's Seafood & Coldstorage Ltd</i>	Importer, distributor and retailer	Local vegetables from Paradise Farms. Seafoods from local suppliers. Meat and other frozen products from local and overseas suppliers	Meats, poultry, seafood, dairy and vegetables.	Korovuto	
<i>Yee's Cold Storage</i>	Importer, distributor and retailer	Local and Imported	Meat, poultry, seafood, dairy and tropical fruit juice	Nadi / Denarau	
<i>Foods Pacific Limited</i>	Manufacturer and distributor	Local and Imported	Seafood, dairy	Wailada Lami	HACCP and ISO22000
<i>Fresh'et International Limited</i>	Importer, Distributor and Retailor	Local and Imported	Meat, seafood, poultry	Suva	
<i>Fiji Meats</i>	Manufacture, importer, wholesalers and retailer	Local and Imported	Meat, seafood, poultry	Lautoka	HACCP
<i>Leylands</i>	Manufacture, importer, wholesalers and retailer	Local and Imported	Meat, seafood, poultry	Suva	
<i>Whaleys</i>	Manufacture, importer, wholesalers and retailer	Local and Imported	Meat, seafood, poultry	Suva	
<i>Smart Chef</i>	Importer and Distributor	Imported	Seafood and finger foods	Nadi	
<i>South Pacific Butchering Company</i>	Importer, manufacturer, wholesaler and retailer	Local and imported	Meat, seafood, poultry	Nadi	
<i>Golden Ocean Seafood</i>	Fishing company and distributor	Local	Seafood	Suva	HACCP
<i>The Crab Company Fiji Limited</i>	Grower of mud crabs and prawns	Own farm	Seafood	Navua	



ANNEX 3. SCOPE AND METHODOLOGY

Initial research: The project team conducted initial interviews with hotel general managers and purchasing managers during the study planning phase to determine overarching issues and general purchasing patterns. Based on this research, the team ascertained that there are key differences in purchasing patterns linked to hotel size, location and price category.

Questionnaire: The study used two questionnaires, one to collect qualitative information on purchasing patterns, preferences and requirements, and one for quantitative data on the volume of imported and fresh produce sourced by the hotel. The qualitative questionnaire was circulated via email to elicit interest. The project team, including the MoA AgTrade team, then conducted in-person interviews to collect information from hotel purchasing managers, general managers and/or chefs. Quantitative data were collected through a detailed form requesting average monthly volumes for 112 fresh produce items for one high season month and one low season month. Some hotels submitted purchasing reports from their software systems or more than one month of data. In these cases, the project team used as much data as available to increase accuracy.

Sample Set: The study included hotels⁽¹⁸⁾ of all classes in the four main tourist areas in Fiji: Nadi and Lautoka, Denarau, the Coral Coast, and the Mamanuca and Yasawa Islands. Collectively, these areas are home to 40 percent of all hotels and 74 percent of all beds. There are approximately 400 hotels in all of Fiji, according to MITT, and 154 of these hotels in the four main tourism areas covered in this study. The population for this study includes 154 hotels, created from the list of accommodation providers created by MITT after Cyclone Winston in 2016, plus Fiji Marriott Resort Momi Bay, which opened in 2017. Hotel price category information was sourced from MITT, Tourism Fiji's database and the internet.

18 Any reference to hotels in this report includes all accommodation types such as resorts and backpackers.

To account for variances within the sample, a stratified sampling approach was developed for each destination based on location, hotel category (room price) and size (number of beds). The stratified approach was based on the findings from the initial research that identified differences in purchasing/sourcing patterns. The sampling method accounts for variances in standard purchasing/sourcing systems and volume needs based on the size of a hotel. Large hotels will require larger volumes of fresh produce and typically have strict sourcing and purchasing systems established. However, given the luxury and high-end market in Fiji, examining the sample by price is also important. Luxury and high-end boutique hotels are typically smaller but will have very high food and beverage quality standards and different consumer preferences.

LOCATION	SIZE	CATEGORY
Nadi & Lautoka	Small = 1 to 36 rooms	Budget < FJ \$100
Denarau	Medium = 37 to 60 rooms	Mid-Range < FJ \$250
Coral Coast	Large = 61 rooms plus	High < FJ \$500
Mamanuca Islands & Yasawa Islands		Premium ≥ FJ \$500

Based on this approach, the following stratified sample was developed.

LOCATION	CATEGORY	SIZE	# TOTAL PROPERTIES	VOLUME DATA	QUALITATIVE QUESTIONNAIRE
<i>Coral Coast</i>	Budget and Midrange	Medium and Small	15	4	8
<i>Coral Coast</i>	High and Premium	Large and Medium	7	4	4
<i>Coral Coast</i>	High and Premium	Small	8	3	4
<i>Denarau</i>	High and Premium	Medium and Large	7	3	4
<i>Mamanuca and Yasawa</i>	Budget and Midrange	Medium and Small	17	4	5
<i>Mamanuca and Yasawa</i>	High and Premium	Large and Medium	10	5	6
<i>Mamanuca and Yasawa</i>	High and Premium	Small	24	6	9
<i>Nadi and Lautoka</i>	Budget and Midrange	Large and Medium	16	6	8
<i>Nadi and Lautoka</i>	Budget and Midrange	Small	45	7	12
<i>Nadi and Lautoka</i>	High and Premium	Medium and Small	5	2	2
TOTAL			154	44	62

Extrapolation to represent the market: Analysis in this report is based on the inputs received from surveyed hotels and extrapolated to represent the entire population of hotels in Fiji's four main tourism areas (154 hotels). As per scope of the report, any reference to total demand or imports in this report refers to the demand or imports by the hotels in the main tourism areas noted above, unless specifically mentioned otherwise. Extrapolation is based on the principles below:

- **Hotels:** Forty-four hotels with an estimated 3,386 rooms were surveyed out of a total of 154 hotels with a total room capacity of 7,274. This represents a coverage of 47 percent of hotel rooms in the four areas of focus. For each stratified sample set, the project team calculated an average per product demand per room and extrapolated it on a pro-rata basis by the number of rooms in order to represent 100 percent of the hotel rooms in the tourism areas covered by the report.

Quantity demand: Businesses provided information on the quantity procured locally and that imported from overseas, by product, across a range of vegetables (40 varieties), fruits (29 varieties), meat and dairy products (22 varieties), packaged tropical juice, and herbs (20 varieties) during the high and low tourist seasons. The project team presents a value-based analysis at individual product level, since aggregation is not feasible due to variance of volume units across products.

Prices: Average price data and market estimates from various suppliers and buyers and from statistics provided by MoA were collected, analyzed and applied. For imported fresh produce, price data are a direct average of a complete year of prices to hotels collected from import suppliers. For local fresh produce, data were sourced, averaged and estimated from prices collected from various suppliers, six months of hotel purchasing prices, and monthly prices provided by the Fiji Bureau of Statistics and MoA. Meat and seafood prices have been sourced from buyers and suppliers. For meat categories, where more than one item is classified within that group, an industry average has been used.

The pricing for fresh produce fluctuates quite substantially and is determined by various factors that include: seasonality, the amount of product availability vs current market demand, market saturation, farmer competitive advantage, supplier stock levels and level of quality. All these factors affect the weekly price of items. Prices used to calculate the value estimates in this report are VAT exclusive prices (VEP) as hotel tenders are submitted in VEP. Local fruit and vegetables are VAT exempt.

Aggregation: Quantity demanded and price data are multiplied to arrive at a dollar value for each product. The figures have been aggregated and extrapolated to represent the whole targeted market, on the basis of the principles explained above. Analysis is presented at an aggregate and at a product level.

Product level analysis: The report includes a product level analysis that results in recommendations for import substitution. For this analysis, three key metrics are used.

1. Share of demand – This metric represents the impact on imports and the importance of local substitution in the product category. This is based on specific product imports as a percentage of total imports in the product's category (in value terms). Products were classified into four categories: above 80 percent of demand is imported, 20 percent to 80 percent of demand is imported, below 20 percent of demand is imported, and zero percent of demand is imported.
2. Technical feasibility of local production – This represents the possibility of producing the product locally in Fiji and is based on inputs from the agricultural experts and stakeholders.
3. Based on a combination of share of demand and technical feasibility for production, each produce item was classified as having high, medium or low potential for increased import substitution.

Exchange rate: The report presents the impact/market size in both Fiji dollar and US dollar terms. The exchange rate used is the average exchange rate for USD and FJD in 2017, being 1 USD = 2.04679 Fiji dollars (Source: www.oanda.com).

Challenges related to data aggregation

- **The Impact of Cyclone Winston on locally grown produce:** Tropical Cyclone Winston hit Fiji in February 2016, drastically reducing the amount of local fresh produce available in the market. This study asked hotels to report only from July 2016 onward, assuming a short recovery period for farmers. However, data may be affected by this event.
- **Interviews with the relevant person:** The relevant person varied from business to business. In most cases, it was the owner, general manager, chef or purchasing manager. In a few cases the project team met with a junior delegate, which affected the quality of the discussions and responses.
- **Subjective interpretation of the survey questions and inconsistent data:** All hotels requested that the volume form be left with them so that they could extract information from their purchasing software systems or reports to increase accuracy. In a few cases, this led to incomplete or inconsistent data. When this occurred, the project team followed up with hotels to confirm and complete data. Manual adjustments to the data have been made in these cases. In cases where low season data were not provided by the respondent, hotels provided an estimated percentage difference (usually a 30 percent reduction from high season).



ANNEX 4. AGGREGATE DATA BY PRODUCT

Annex 4 A. Aggregate data by product for vegetables

Product list	Total Annual Spend (FJD)	Local				Imported			
		Annual Value (FJD)	Annulised Volume	Price	Per Unit	Annual Value (FJD)	Annulised Volume	Price	Per Unit
Vegetables									
<i>Amaranths/local spinach</i>	\$116,887	\$116,887	58,443	\$2.00	Bundle	\$-	-	\$-	Bundle
<i>Beetroot</i>	\$49,751	\$-	-	\$-	KG	\$49,751	7,774	\$6.40	KG
<i>Bele</i>	\$27,681	\$27,681	13,840	\$2.00	Bunble	\$-	-	\$-	Bunble
<i>Broccoli</i>	\$358,300	\$-	-	\$-	KG	\$358,300	26,739	\$13.40	KG
<i>Cabbage (English Green)</i>	\$258,870	\$210,720	84,288	\$2.50	KG	\$48,151	13,957	\$3.45	KG
<i>Cabbage (English Purple)</i>	\$83,012	\$7,104	2,583	\$2.75	KG	\$75,907	16,014	\$4.74	KG
<i>Capsicum (Green)</i>	\$621,203	\$255,758	28,418	\$9.00	KG	\$365,445	30,202	\$12.10	KG
<i>Capsicum (Red, Yellow, Orange)</i>	\$575,728	\$11,291	1,026	\$11.00	KG	\$564,437	41,200	\$13.70	KG
<i>Carrot</i>	\$378,745	\$-	-	\$-	KG	\$378,745	168,331	\$2.25	KG
<i>Cassava</i>	\$223,210	\$223,210	148,806	\$1.50	KG	\$-	-	\$-	KG
<i>Cauliflower</i>	\$286,012	\$38,838	6,696	\$5.80	KG	\$247,174	26,101	\$9.47	KG
<i>Celery</i>	\$269,781	\$-	-	\$-	KG	\$269,781	51,981	\$5.19	KG
<i>Cherry tomato</i>	\$42,615	\$29,513	1,230	\$24.00	KG	\$13,102	506	\$25.88	KG
<i>Chili</i>	\$165,521	\$165,521	11,035	\$15.00	KG	\$-	-	\$-	KG
<i>Chinese Cabbage/ Bok choy</i>	\$98,267	\$97,706	81,422	\$1.20	Bundle	\$561	46	\$12.24	Bundle
<i>Cow peas</i>	\$1,215	\$1,215	608	\$2.00	Bundle	\$-	-	\$-	Bundle
<i>Cucumber (normal)</i>	\$201,298	\$201,298	100,649	\$2.00	KG	\$-	-	\$-	KG
<i>Cucumber (telegraph)</i>	\$65,113	\$65,113	14,798	\$4.40	KG	\$-	-	\$-	KG
<i>Duruka/ local asparagus</i>	\$7,698	\$7,698	962	\$8.00	Bundle	\$-	-	\$-	Bundle
<i>Eggplant</i>	\$87,716	\$87,716	58,477	\$1.50	KG	\$-	-	\$-	KG
<i>Fern leaves/ Ota</i>	\$34,799	\$34,799	12,000	\$2.90	Bundle	\$-	-	\$-	Bundle
<i>Garlic</i>	\$211,299	\$-	-	\$-	KG	\$211,299	36,306	\$5.82	KG
<i>Green beans/French beans</i>	\$18,034	\$18,034	4,099	\$4.40	KG	\$-	-	\$-	KG
<i>Heart of palm</i>	\$32,752	\$32,752	1,149	\$28.50	KG	\$-	-	\$-	KG
<i>Kumala</i>	\$172,912	\$172,912	69,165	\$2.50	KG	\$-	-	\$-	KG
<i>Leek</i>	\$55,601	\$-	-	\$-	KG	\$55,601	6,017	\$9.24	KG
<i>Lettuce</i>	\$1,424,322	\$1,088,290	136,036	\$8.00	KG	\$336,032	26,690	\$12.59	KG
<i>Long beans/snake beans</i>	\$245,196	\$245,196	102,165	\$2.40	Bundle	\$-	-	\$-	Bundle
<i>Mushroom, white button</i>	\$280,030	\$-	-	\$-	KG	\$280,030	12,946	\$21.63	KG
<i>Okra</i>	\$67,524	\$67,524	19,293	\$3.50	KG	\$-	-	\$-	KG
<i>Onion</i>	\$456,897	\$-	-	\$-	KG	\$456,897	270,353	\$1.69	KG
<i>Potato</i>	\$673,347	\$-	-	\$-	KG	\$673,347	477,551	\$1.41	KG
<i>Pumpkin</i>	\$97,407	\$97,407	108,230	\$0.90	KG	\$-	-	\$-	KG
<i>Rourou</i>	\$133,310	\$133,310	66,655	\$2.00	Bundle	\$-	-	\$-	Bundle
<i>Shallots</i>	\$26,896	\$-	-	\$-	KG	\$26,896	2,069	\$13.00	KG
<i>Taro/ Dalo</i>	\$148,200	\$148,200	82,333	\$1.80	KG	\$-	-	\$-	KG
<i>Watercress</i>	\$597	\$597	199	\$3.00	Bundle	\$-	-	\$-	Bundle
<i>Zucchini</i>	\$361,520	\$189,996	20,000	\$9.50	KG	\$171,524	16,572	\$10.35	KG
<i>Radish</i>	\$76,474	\$11,586	3,131	\$3.70	KG	\$64,888	2,767	\$23.45	KG
<i>Sprouts</i>	\$14,048	\$8,576	1,429	\$6.00	KG	\$5,472	172	\$31.87	KG
Total	\$8,449,785	\$3,796,446				\$4,653,339			

Annex 4 B. Aggregate data by product for fruits

Product list	Total Annual Spend (FJD)	Local				Imported			
		Annual Value (FJD)	Annulised Volume	Price	Per Unit	Annual Value (FJD)	Annulised Volume	Price	Per Unit
FRUIT									
<i>Apple</i>	\$459,190	\$-	-	\$-	KG	\$459,190	103,889	\$4.42	KG
<i>Avocado</i>	\$214,749	\$13,799	2,300	\$6.00	KG	\$200,950	12,890	\$15.59	KG
<i>Banana</i>	\$197,969	\$197,969	141,406	\$1.40	KG	\$-	-	\$-	KG
<i>Breadfruit</i>	\$3,914	\$3,914	1,631	\$2.40	KG	\$-	-	\$-	KG
<i>Bush lemon</i>	\$120,318	\$120,318	35,388	\$3.40	KG	\$-	-	\$-	KG
<i>Coconut (mature)</i>	\$133,446	\$133,446	133,446	\$1.00	Each	\$-	-	\$-	Each
<i>Coconut (young, for drinking)</i>	\$102,461	\$102,461	51,231	\$2.00	Each	\$-	-	\$-	Each
<i>Grape</i>	\$66,899	\$-	-	\$-	KG	\$66,899	7,983	\$8.38	KG
<i>Grapefruit</i>	\$32,607	\$462	462	\$1.00	KG	\$32,145	3,348	\$9.60	KG
<i>Guava</i>	\$31,086	\$31,086	7,771	\$4.00	KG	\$-	-	\$-	KG
<i>Honeydew melon</i>	\$364,574	\$25,226	3,881	\$6.50	KG	\$339,348	34,912	\$9.72	KG
<i>Jack fruit</i>	\$16,256	\$16,256	1,659	\$9.80	KG	\$-	-	\$-	KG
<i>Kiwi</i>	\$46,346	\$-	-	\$-	KG	\$46,346	6,437	\$7.20	KG
<i>Kumquat</i>	\$316	\$316	79	\$4.00	KG	\$-	-	\$-	KG
<i>Lemon</i>	\$159,426	\$148,968	37,242	\$4.00	KG	\$10,458	910	\$11.49	KG
<i>Lime</i>	\$389,741	\$389,741	67,781	\$5.75	KG	\$-	-	\$-	KG
<i>Mandarin</i>	\$84,145	\$36,602	7,320	\$5.00	KG	\$47,543	4,406	\$10.79	KG
<i>Mango</i>	\$110,528	\$110,528	20,096	\$5.50	KG	\$-	-	\$-	KG
<i>Orange</i>	\$563,548	\$38,276	11,095	\$3.45	KG	\$525,271	127,803	\$4.11	KG
<i>Papaya/ Paw Paw</i>	\$368,608	\$368,608	237,811	\$1.55	KG	\$-	-	\$-	KG
<i>Passionfruit</i>	\$144,186	\$144,186	19,888	\$7.25	KG	\$-	-	\$-	KG
<i>Pear</i>	\$101,067	\$-	-	\$-	KG	\$101,067	19,817	\$5.10	KG
<i>Pineapple</i>	\$1,313,598	\$1,313,598	536,163	\$2.45	KG	\$-	-	\$-	KG
<i>Plum</i>	\$5,557	\$-	-	\$-	KG	\$5,557	423	\$13.15	KG
<i>Rock melon</i>	\$548,579	\$198,085	38,840	\$5.10	KG	\$350,494	33,349	\$10.51	KG
<i>Strawberry</i>	\$46,717	\$-	-	\$-	KG	\$46,717	1,228	\$38.04	KG
<i>Tomato</i>	\$1,961,709	\$742,009	164,891	\$4.50	KG	\$1,219,701	110,380	\$11.05	KG
<i>Vudi - ripe</i>	\$29,336	\$29,336	7,720	\$3.80	KG	\$-	-	\$-	KG
<i>Watermelon</i>	\$1,262,714	\$1,262,714	476,496	\$2.65	KG	\$-	-	\$-	KG
<i>Taramind</i>	\$153	\$153	13	\$12.00	KG	\$-	-	\$-	KG
Total	\$8,879,743	\$5,428,057				\$3,451,686			

Annex 4 C. Aggregate data by product for meat, dairy, poultry and seafood

Product list	Total Annual Spend (FJD)	Local				Imported			
		Annual Value (FJD)	Annulised Volume	Price	Per Unit	Annual Value (FJD)	Annulised Volume	Price	Per Unit
Meat/ Dairy/Seafood									
Butter	\$3,433,959	\$550,428	31,634	\$17.40	KG	\$2,883,531	134,118	\$21.50	KG
Cheese	\$4,612,146	\$55,733	3,596	\$15.50	KG	\$4,556,413	189,851	\$24.00	KG
Chicken	\$5,795,078	\$5,795,078	711,926	\$8.14	KG	\$-	-	\$8.00	KG
Cream	\$752,032	\$54,483	8,513	\$6.40	Litre	\$697,549	73,426	\$9.50	Litre
Eggs	\$2,700,496	\$2,700,496	270,050	\$10.00	Tray (30)	\$-	-	\$-	Tray (30)
Milk	\$1,562,250	\$694,875	315,852	\$2.20	Litre	\$867,375	413,036	\$2.10	Litre
Yogurt	\$1,235,316	\$647,829	86,377	\$7.50	Litre	\$587,486	29,463	\$19.94	Litre
Bacon	\$3,350,233	\$732,883	40,716	\$18.00	KG	\$2,617,351	130,868	\$20.00	KG
Beef	\$8,199,785	\$1,109,156	65,244	\$17.00	KG	\$7,090,629	221,582	\$32.00	KG
Lamb	\$2,732,125	\$-	-	\$-	KG	\$2,732,125	170,758	\$16.00	KG
Pork	\$2,331,074	\$2,006,474	125,405	\$16.00	KG	\$324,600	16,646	\$19.50	KG
Veal	\$9,742	\$-	-	\$6.00	KG	\$9,742	974	\$10.00	KG
Clams/ Kai	\$30,496	\$30,496	8,025	\$3.80	KG	\$-	-	\$-	KG
Crab	\$1,200,084	\$1,040,966	34,699	\$30.00	KG	\$159,117	5,786	\$27.50	KG
Fish	\$7,843,863	\$7,023,341	425,657	\$16.50	KG	\$820,523	26,468	\$31.00	KG
Lobster	\$2,711,351	\$2,711,351	67,784	\$40.00	KG	\$-	-	\$-	KG
Mussels/ Oysters	\$614,487	\$9,307	384	\$24.25	KG	\$605,180	36,678	\$16.50	KG
Octopus/ Squid	\$690,501	\$88,947	5,930	\$15.00	KG	\$601,554	48,124	\$12.50	KG
Prawns	\$3,025,082	\$51,592	1,474	\$35.00	KG	\$2,973,490	92,922	\$32.00	KG
Scallop	\$582,063	\$-	-	\$-	KG	\$582,063	18,189	\$32.00	KG
Smoked Fish	\$591,575	\$236,876	9,870	\$24.00	KG	\$354,700	6,718	\$52.80	KG
Honey	\$175,809	\$175,809	7,991	\$22.00	Litre	\$-	-	\$-	Litre
Total	\$54,179,547	\$25,165,692				\$25,579,896			

Annex 4 D. Aggregate data by product for herbs

Product list	Total Annual Spend (FJD)	Local				Imported			
		Annual Value (FJD)	Annulised Volume	Price	Per Unit	Annual Value (FJD)	Annulised Volume	Price	Per Unit
Herbs/ Spices									
<i>Basil</i>	\$132,489	\$129,415	6,471	\$20.00	KG	\$3,073	34	\$91.67	KG
<i>Chives</i>	\$113,999	\$34,440	861	\$40.00	KG	\$79,559	868	\$91.67	KG
<i>Cilantro / Coriander Leaves</i>	\$144,477	\$144,477	100,331	\$1.44	Bundle	\$-	-	\$-	Bundle
<i>Cinnamon - Dried</i>	\$7,196	\$572	57	\$10.00	KG	\$6,623	394	\$16.80	KG
<i>Dill</i>	\$43,832	\$30,935	773	\$40.00	KG	\$12,896	141	\$91.67	KG
<i>Ginger</i>	\$69,235	\$69,235	23,078	\$3.00	KG	\$-	-	\$-	KG
<i>Lemon grass</i>	\$31,362	\$31,362	2,613	\$12.00	KG	\$-	-	\$-	KG
<i>Local turmeric</i>	\$33,159	\$15,222	1,522	\$10.00	KG	\$17,938	1,281	\$14.00	KG
<i>Mint</i>	\$86,974	\$86,974	7,248	\$12.00	KG	\$-	-	\$-	KG
<i>Nutmeg - Dried</i>	\$3,915	\$3,256	54	\$60.00	KG	\$660	17	\$37.80	KG
<i>Oregano</i>	\$4,873	\$1,840	46	\$40.00	KG	\$3,034	84	\$36.00	KG
<i>Paprika</i>	\$14,235	\$-	-	\$-	KG	\$14,235	508	\$28.00	KG
<i>Parsley curly</i>	\$76,708	\$35,361	1,664	\$21.25	KG	\$41,347	1,556	\$26.58	KG
<i>Parsley flat</i>	\$63,867	\$41,328	1,503	\$27.50	KG	\$22,539	683	\$33.00	KG
<i>Pepper</i>	\$24,710	\$-	-	\$-	KG	\$24,710	852	\$29.00	KG
<i>Rosemary</i>	\$107,611	\$16,416	274	\$60.00	KG	\$91,195	995	\$91.67	KG
<i>Sage</i>	\$32,048	\$25,649	641	\$40.00	KG	\$6,399	70	\$91.67	KG
<i>Spring Green onion</i>	\$103,805	\$103,805	69,204	\$1.50	Bundle	\$-	-	\$-	Bundle
<i>Vanilla</i>	\$22,643	\$6,972	116	\$60.00	Litre	\$15,671	603	\$26.00	Litre
<i>Curry Leaf</i>	\$3,612	\$3,612	3,612	\$1.00	Bundle	\$-	-	\$-	Bundle
<i>Thyme</i>	\$36,527	\$36,527	913	\$40.00	KG	\$-	2		KG
Total	\$1,157,276	\$817,398				\$339,878			

Annex 4 E. Aggregate data by product for packaged tropical fruit juice

Product list	Total Annual Spend (FJD)	Local				Imported			
		Annual Value (FJD)	Annulised Volume	Price	Per Unit	Annual Value (FJD)	Annulised Volume	Price	Per Unit
Packaged tropical juice	\$1,762,724	\$195,973	59,386	\$3.30	Litre	\$1,566,751	559554	\$2.80	Litre
Total	\$1,762,724	\$195,973				\$1,566,751			

ANNEX 5. HOTELS AND RESORTS THAT PARTICIPATED IN THE STUDY

S. NO.	LOCATION	HOTEL/RESORT	QUALITATIVE QUESTIONNAIRE	VOLUME DATA
1	Nadi/Lautoka	Anchorage Beach Resort	Y	Y
2	Nadi/Lautoka	Aquarius on the Beach	Y	N
3	Nadi/Lautoka	Bluewater	Y	N
4	Nadi/Lautoka	Capricorn Hotel	Y	N
5	Nadi/Lautoka	Fun World Plaza Hotel	Y	N
6	Nadi/Lautoka	Gate 8 Motel	Y	Y
7	Nadi/Lautoka	Horizon Beach	Y	N
8	Nadi/Lautoka	Hotel Martintar	Y	Y
9	Nadi/Lautoka	Melanesian Hotel	Y	N
10	Nadi/Lautoka	Mercure Hotel Nadi	N	Y
11	Nadi/Lautoka	Nadi Airport Lodge	Y	N
12	Nadi/Lautoka	Nadi Airport Transit Hotel	Y	N
12	Nadi/Lautoka	Nadi Bay Resort Hotel	Y	Y
14	Nadi/Lautoka	Novotel Nadi	Y	Y
15	Nadi/Lautoka	Oasis Palms Hotel	Y	Y
16	Nadi/Lautoka	Raffles Gateway Hotel	Y	Y
17	Nadi/Lautoka	Smugglers Cove Beach Resort	Y	Y
18	Nadi/Lautoka	Stoney Creek	Y	Y
19	Nadi/Lautoka	The Fiji Orchid	Y	Y
20	Nadi/Lautoka	Tokatoka Resort	Y	Y
21	Nadi/Lautoka	Travellers Beach Resort – Bamboo	Y	Y
22	Nadi/Lautoka	Tropic of Capricorn	Y	Y
23	Nadi/Lautoka	Wailoaloa Beach Resort	Y	Y
24	Mamanuca & Yasawa	Barefoot Manta Island	N	Y
25	Mamanuca & Yasawa	Beachcomber	N	Y
26	Mamanuca & Yasawa	Blue Lagoon Resort	N	Y
27	Mamanuca & Yasawa	Botaira Beach Resort	Y	N
28	Mamanuca & Yasawa	Bounty Island Resort	Y	Y
29	Mamanuca & Yasawa	Coconut Beach Resort	Y	Y
30	Mamanuca & Yasawa	Coral View Resort	Y	Y
31	Mamanuca & Yasawa	Funky Fish	Y	Y
32	Mamanuca & Yasawa	Likuliku Lagoon Resort	Y	N
33	Mamanuca & Yasawa	Lomani Island Resort	Y	Y

34	Mamanuca & Yasawa	Malolo Island Resort	Y	N
35	Mamanuca & Yasawa	Matamanoa Island Resort	Y	Y
36	Mamanuca & Yasawa	Nanuya Island Resort	Y	N
37	Mamanuca & Yasawa	Naqalia Lodge	Y	N
38	Mamanuca & Yasawa	Oarsmans Bay Lodge	Y	N
39	Mamanuca & Yasawa	Octopus Resort	N	Y
40	Mamanuca & Yasawa	Paradise Cove Resort	Y	Y
41	Mamanuca & Yasawa	Plantation Resort	Y	Y
42	Mamanuca & Yasawa	Ratu Kini Boko's Youth Hostel	Y	Y
43	Mamanuca & Yasawa	Tokoriki Island – Sheraton	Y	Y
44	Mamanuca & Yasawa	Treasure Island Resort	Y	Y
45	Mamanuca & Yasawa	Waya Lailai Eco Haven Resort	Y	N
46	Mamanuca & Yasawa	White Sandy Beach Resort	Y	N
47	Mamanuca & Yasawa	Yasawa Island Resort & Spa	Y	N
48	Coral Coast	Beachouse	Y	N
49	Coral Coast	Bedarra Beach Inn	Y	Y
50	Coral Coast	Casablanca	Y	N
51	Coral Coast	Crows Nest	Y	Y
52	Coral Coast	Fiji Hideaway Resort & Spa	Y	N
53	Coral Coast	Geckos Resort	Y	Y
54	Coral Coast	InterContinental Golf Resort & Spa	Y	Y
55	Coral Coast	Mango Bay Resort	Y	N
56	Coral Coast	Maui Palms	Y	Y
57	Coral Coast	Namuka Bay Resort	Y	N
58	Coral Coast	Outrigger	N	Y
59	Coral Coast	Shalini Garden Hotel	Y	N
60	Coral Coast	Shangri-La's Fijian Resort	Y	Y
61	Coral Coast	Tambua Sands Beach Resort and Spa	Y	Y
62	Coral Coast	The Wellesley Resort	Y	Y
63	Coral Coast	Warwick	Y	Y
64	Coral Coast	Yatule Resort & Spa	Y	Y
65	Denarau	Hilton Fiji Beach Resort and Spa	Y	N
66	Denarau	Sheraton Denarau Villas	Y	Y
67	Denarau	Sheraton Fiji	Y	Y
68	Denarau	The Westin Denarau Island Resort & Spa	Y	Y

Abbreviations

ACIAR – Australian Centre for International Agricultural Research

CCP lite – Critical Control Points Lite

FAO – Food and Agriculture Organization

FAPP – Fiji Agricultural Partnerships Project

FCLC – Fiji Crop and Livestock Council

HACCP – Hazard Analysis and Critical Control Points

IFC – International Finance Corporation

MDF – Market Development Facility

MITT – Ministry of Industry, Trade and Tourism

MoA – Ministry of Agriculture

PHAMA – Pacific Horticulture and Market Access Project

PIFON – Pacific Islands Farmers Organization Network

PIPSO – Pacific Island Private Sector Organization

TTM – Taiwan Technical Mission

VAT – Value added taxes

VEP – VAT exclusive price


WTTC – World Travel and Tourism Council

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