

# Humanitarian Innovation Hackathon



9 INDUSTRY, INNOVATION  
AND INFRASTRUCTURE



## Island Economies

### The Issue

Fiji has a very large food import bill and a major contributor to this is the tourism industry.

According to the World Bank's From the Farm to the Tourists Table report, in 2017 of the FJ\$74.4 million spent by main tourism areas on fresh produce, 52% (FJ\$38.5 million) was on imported items.

While local agricultural and fishing initiatives exist, there are significant barriers which prevent the supply of this produce to the tourism industry, thereby contributing to the dependence on imported foods.

## Hackathon Challenge D

**Humanitarian Mentor:** Ivy Susanti

**How might Fiji's annual food import bill be reduced through agritourism (local food supply to the tourism market)?**

Fiji has a very large food import bill, and a major contributor to this is the tourism industry. So why is local produce not being used more?

### Persona

Kelera, 30, is a mother of three from Rewasau village near Monasavu dam in Naitasiri province. She earns a living by farming fish through the Tilapia Fish Farming project. The project is initiated by a group of Rewasau women to earn a supplementary income for their families.

In 2014, Kelera and several other women attended a fish farming workshop organised by the Fiji Ministry of Fisheries in Naitasiri to introduce villagers to Tilapia fish farming. Kelera was interested and wanted to give it a go.

Three years following the success of the Tilapia Fish Farming Project, Kelera wants to expand her potential source of income and sell the fish to resort hotels along Viti Levu island and traditional markets across the country. She heard about the Fijian government's Tourism Development Plan which links local farmers with the national tourism industry, enabling her and her fellow villagers to sell fresh produce to hotels that cater to international tourists and help reduce reliance on imported food.

However, Kelera's road to success is not smooth.

Rewasau is in the interior of Viti Levu island in Fiji. The village is inaccessible as the roads are steep and buses are unable to stop at the village itself. This challenge is exacerbated by both the absence of cold storage which lowers the quality of the fish being delivered, and shipping delays to hotels. The geography of Rewasau also makes it difficult for the villagers to use mobile services and consequently delay communication with hotels.

Kelera wants the HIA team to look for solutions to connect with the broader tourism industry and support the government's campaign to reduce dependency on imported food. This is becoming increasingly urgent as Fiji's tourism industry has been halted by COVID-19 restrictions, hence obtaining fresh produce locally will support sustainable eating, small businesses, and economic growth.



The Warren Centre  
& Professor Ron Johnston

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## Resources

**Food and Agriculture Organization (FAO). 2019. Pro-Resilient Fiji – Strengthening climate resilience of communities for food and nutrition security.**  
<http://www.fao.org/3/ca4292en/CA4292EN.pdf>

**Fijian Ministry of Agriculture. 2019. 5 Year Strategic Development Plan (2019–2023).**  
<https://www.agriculture.gov.fj/documents/SDP2019-2023.pdf>

**Fiji Bureau of Statistics. 2018. CENSUS 2017 – Release 1.**  
<https://www.statsfiji.gov.fj/index.php/census-2017/census-2017-release-1>

**Secretariat of the Pacific Community. 2011. Food security in the Pacific and East Timor and its vulnerability to climate change.**  
<https://www.environment.gov.au/system/files/pages/275228c5-24db-47f2-bf41-82ef42cda73d/files/food-security-report.pdf>

**FAO. 2011. Report Fiji Domestic Market Study: Opportunities and challenges for vegetable import substitution.**  
<http://www.fao.org/3/an415e/an415e.pdf>



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# Background

According to the World Bank's From the Farm to the Tourists Table report, in 2017 of the FJ\$74.4 million spent by main tourism areas on fresh produce, 52% (FJ\$38.5 million) was on imported items.

Though a major agricultural exporter, with an increasing export volume at an average of 2% per annum from 2014–2018, Fiji's crop imports of wheat, vegetables, rice, potatoes, and fruits make up an average of 90% of the total volume of agriculture imports. Fresh and frozen imports take 69% share of crop imports volume. Most fresh and frozen livestock are lamb, beef and chicken imported from Australia and New Zealand. Imported food and beverages particularly cater for the tourism and supermarket sector, which is popular with tourists from Australia and New Zealand. Indeed, Fiji's reliance on crop imports is a response to Fiji's tourism sector's demand.

The ability of the government and individual households to pay for imported food will determine food security in the country. The income from service sectors such as tourism and remittances are easily affected by external economic shocks such as global food price increase or coronavirus pandemic that shut down the tourism industry, reducing earnings and the ability to purchase imported food. Gender inequality, including unequal access to productive resources (such as lands, farming services and inputs, finance, training, and information), markets and institutions has also hindered the realisation of women's human and productive potential, Australian Centre for International Agricultural Research says.

With the tourism market being such a large contributor to Fiji's food imports, the Fijian Ministry of Agriculture, referencing a report from International Financial Cooperation, noted that the country could potentially reduce its annual food import bill by FJ\$24.1 million though increasing local food supply to the tourism market (agritourism).

## Location Information

Since gaining independence from the British rule in October 1970, agriculture has been the backbone of Fiji's economy, contributing 11.8% to its Gross Domestic Product in 2019 alone. It plays a key role in Fijian's livelihood as 65% of its 896,000 population derive their income from this sector. A sector which accounts for 45% of total of employment, of which 37% are women. Challenges in agricultural development include population growth, natural disasters due to climate change and rural-urban migration. Most rural and maritime communities in this country rely on subsistence agriculture for survival, using traditional environmental knowledge and practices of crop farming, collective community work and socio-cultural safety net system such as food barter, to ensure food security and wellbeing during hard times including natural disasters and the coronavirus pandemic.

## The shift to imported food consumption

Fiji relies heavily on imported food sources, with 54% of household food expenditure sourced from supermarkets –opposed to local fresh food markets. This is exacerbated by increasing urbanisation, with the proportion of Fiji's population living in urban areas increased from 37.2% (588,068) in 1976, to 55.9% (884,887) in 2017.

The Food and Agricultural Organisation (FAO) reports that the change in Fiji's food consumption is attributed to value for money and ease of preparation. However, the diversity in diet has greatly reduced with the ease of access and affordability of imported processed food, leading to increasing rates of disease. The Future Directions International (FDI) reports that consumption of energy-dense processed food has caused high levels of overnutrition, increased obesity rates and associated non-communicable diseases (NCDs). While the adult obesity rate in Fiji was 9.8% in 1993, it increased more than threefold to 32.1% in 2011, this number is still increasing. Increasing rates of obesity in Fiji contributes to additional diseases of the circulatory system (44%); endocrinal, nutritional and metabolic disease (13%) and cancer (10%).

Rapid urbanisation in recent years has resulted in the decline of crop farming in rural areas. The latest census by the Fiji Bureau of Statistics records an increase in the proportion of Fiji's population living in urban areas from 37.2% (588,068) in 1976, to 55.9% (884,887) in 2017.



Further, the Secretariat of the Pacific Community (SPC) reports that urbanisation affects food security in four ways:

- Increasing the population's reliance on commercial food markets as urban consumers tend to purchase disproportionately more imported food products than rural consumers;
- Lowering growth in agricultural production due to migration of young people who supply rural labour force;
- Breaking down traditional food insecurity coping mechanism particularly social safety nets therefore increasing vulnerability, and
- Increasing poverty and poor living conditions leading to nutritional problems. SPC further notes that food production per capita in Fiji has declined since the early 1990s which is associated with an increased dependency on imported food.

In 2017, Johns et al. conducted a consumer survey of 1,000 urban households in the main island of Fiji, Viti Levu, to study the shopping patterns in retail outlets of food categories, as well as general changes in consumption from 2012–2017. They found that modern supermarkets had overtaken traditional markets as the dominant food retail outlet with 100% patronage and taken in 54% of total household food expenditures. However, 97% of survey respondents also visited traditional markets for fresh fruit and vegetables, with 28% of urban household expenditures.

Out of 79 fresh and processed food products being surveyed, the team from the University of Adelaide found that the average urban household spent 568 Fijian dollars (\$360 AUD) per month on food. Approximately 28% of that amount was used to purchase processed and manufactured food that include snacks, meat and bottled drinks. Followed by fresh vegetables (22%), carbohydrates (18%), protein sources (14%), fresh fruit (11%), fats, oils and seasoning (6%) and dairy, cheese and yogurt (1%). Main traditional markets focus less on processed food products but fresh produce categories instead.

### The impacts of changes in food consumption

The FAO reports that the change in urban Fijian's food consumption was attributed to value for money and ease of preparation. For example, Fijians tend to reduce eating taro in favour of high calorie food with higher concentrations of carbohydrate and protein such as rice, which is also easier to prepare. Future Directions International (FDI) notes that the typical Fijian diet since 2014 consists of 50% daily rice consumption, 43% daily roti consumption, 15% instant noodles and an overall increasing consumption of processed snack foods such as crisps. Discretion food and drinks which are often high in energy and saturated fat, sugar and/or salt, account for 26% of the average Fijian diet while only 15% of adults eat the recommended five or more fruit and vegetable servings daily and 10% do not eat fruits or vegetables. The combination of increasing consumption of imported food and sedentary lifestyles has resulted in Pacific populations to be among the most obese in the world. Fiji has high prevalence of type-2 diabetes (37,000), iodine deficiency, and endemic goitre. FDI reports that consumption of energy-dense processed food has caused high levels of overnutrition, increased obesity rates and associated non-communicable diseases (NCD). While the adult obesity rate in Fiji was 9.8% in 1993, it has increased more than threefold to 32.1% from 2011. Obesity in Fiji contributes to diseases of the circulatory system (44%); endocrinal, nutritional and metabolic disease (13%) and cancer (10%) which cause between 70 and 75 deaths in the overall Pacific region.

The ability of the government and individual households to pay for imported food will determine food security in the country. The income from service sectors such as tourism and remittances are easily affected by external economic shocks such as global food price increase or coronavirus pandemic that shut down the tourism industry, reducing earnings and the ability to purchase imported food. Gender inequality, including unequal access to productive resources (such as lands, farming services and inputs, finance, training, and information), markets and institutions has also hindered the realisation of women's human and productive potential, Australian Centre for International Agricultural Research says.

### Changing the food consumption behaviour

Public communication provides an innovative means to change eating behaviour. One of such examples is the Pacific Island Food Revolution (PIFR) cooking competition featuring contestants from Fiji, Samoa, Tonga and Vanuatu and broadcasted in the region including in Australia and New Zealand. The TV program, which was initially funded by Australian DFAT, promotes healthy diet in a competition that uses local produce. PIFR aims to link improved nutrition outcomes to its viewership subject to continuation of the TV program. Early surveys conducted by the BusaraCenter for Behavioural Economics showed 55% of study participants reported having changed their diets over the past year and most respondents had started to incorporate new ingredients to improve their home-cooked food. One of the Fijian government's 5-year Strategic Development Plan is to improve food and nutrition security for all Fijians. Nevertheless, Fiji and indeed many other Pacific Island countries will still depend on crop imports to ensure food availability during the cyclone season and other natural disasters caused by climate change.