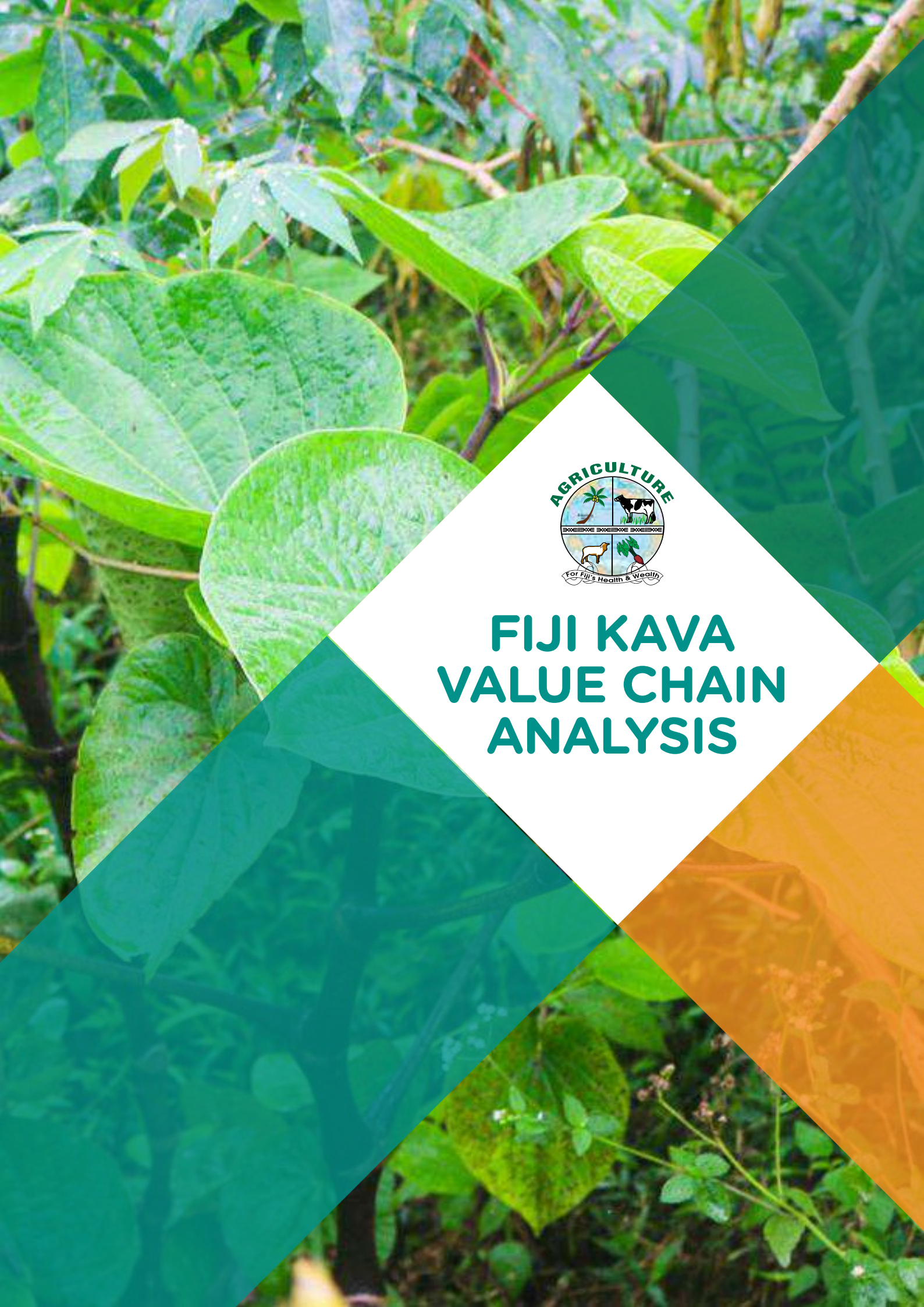

FIJI KAVA VALUE CHAIN ANALYSIS

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PHAMA
Pacific Horticultural & Agricultural Market Access Program
An Australian Government initiative

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The PHAMA program is administered by AECOM-Kalang and aims to improve economic growth and livelihoods in Pacific countries by increasing Pacific horticultural and agricultural exports to international markets.

Australian Aid

NEW ZEALAND MINISTRY OF FOREIGN AFFAIRS & TRADE Aid Programme

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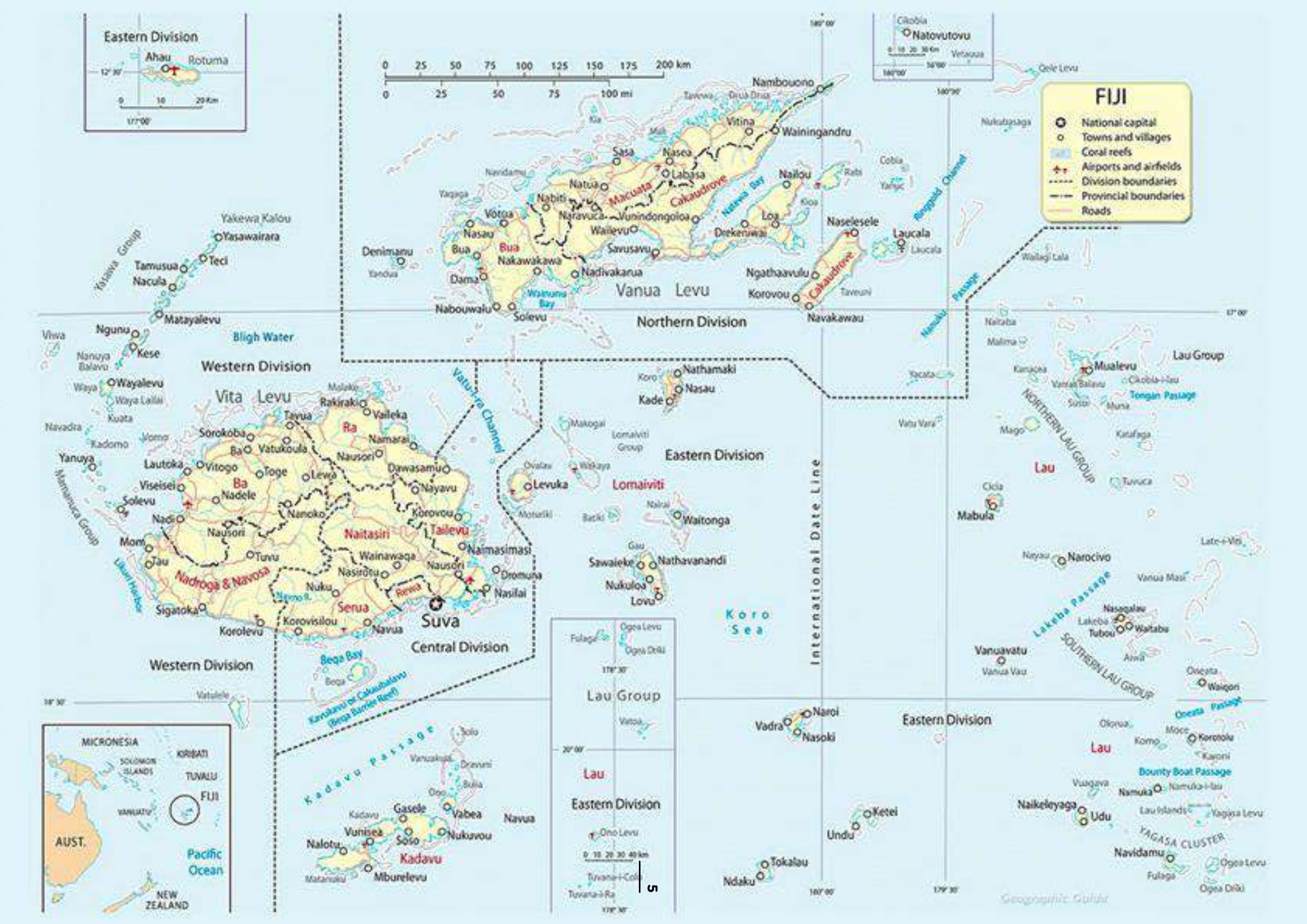
Abbreviations List

Abbreviations	Description
ACP	Africa, Caribbean and Pacific
AMA	Agricultural Marketing Authority
AUD	Australian Dollar
BAF	Biosecurity Authority of Fiji
BQA	Bilateral Quarantine Agreement
CCNASWP	Codex Alimentarius Coordinating Committee for North America and the South-West Pacific
DHL	Dalsey, Hillblom and Lynn (courier service)
EU	European Union
FAO	Food and Agriculture Organisation
FCLC	Fiji Crop and Livestock Council
FDA	Food and Drug Administration (USA)
FDB	Fiji Development Bank
FJD	Fijian Dollar
FSC	Fiji Sugar Corporation
GAPs	Good Agricultural Practices
GDP	Gross Domestic Product
GESI	Gender Equality and Social Inclusion
IHRDP	Integrated Human Resource Development Programs
IKEC	International Kava Executive Committee
MAWG	Market Access Working Group
MoA	Ministry of Agriculture (Fiji)
NES	National Export Strategy
NZD	New Zealand Dollar

Abbreviations	Description
PHAMA	Pacific Horticultural & Agricultural Market Access Program
PIC	Pacific Island Countries
PS	Permanent Secretary
SPC	Pacific Community
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	
TC	Tropical Cyclone
TRTC	Tutu Rural Training Centre
USA	United States of America
USP IAS	University of the South Pacific Institute of Applied Sciences
UK	United Kingdom
UNICEF	United Nations Children's Fund
WG	Williams & Gosling
WHO	World Health Organisation
WTO	World Trade Organisation


Eastern Division
Ahau
Rotuma
FIJI
National capital
Towns and villages
Coral reefs
Airports and airfields
Division boundaries
Provincial boundaries
Roads
Vanua Levu
Northern Division
Western Division
Vita Levu
Eastern Division
Lomaiviti
Central Division
Suva
Lau Group
Lau
Koro Sea
International Date Line
Bligh Water
Vatu-ira Channel
Nanuku Passage
Tongan Passage
Lakeba Passage
Oneata Passage
Bounty Boat Passage
Kadavu Passage
Bega Bay
Yasawa Group
Mamanuca Group
NORTHERN LAU GROUP
SOUTHERN LAU GROUP
YAGASA CLUSTER
Macuata
Cakaudrove
Bua
Ra
Naitasiri
Tailevu
Nadroga & Navosa
Serua
Namosi
Rewa
Kadavu
Navua
MICRONESIA
SOLOMON ISLANDS
KIRIBATI
TUVALU
FIJI
VANUATU
AUST.
NEW ZEALAND
Pacific Ocean
Geographic Guide

Executive Summary

Background

Kava makes a significant contribution to rural livelihoods in some parts of Fiji, particularly on the outer islands where there are limited other opportunities, and is also important in cultural and social dimensions. It is one of the most important cash crops in some rural areas as well as employing large numbers of people in harvesting, processing and retail operations. Kava is widely consumed in Fiji but is also exported in significant quantities to countries including Kiribati, United States of America (USA) and New Zealand.

Industry Metrics

Whilst the statistics are incomplete, it is possible to make some broad estimates of the key industry metrics as follows:

No. of kava growers	10,400 (1 in 8 rural households)
Area of crop	4,000 – 5,000 hectares
Area harvested annually	1,000 – 2,000 hectares
Yield	2.6 – 2.8 tonnes/ha harvested
Kava produced	4,000 – 4,500 tonnes dry weight, farmgate
Imports	100 tonnes dry weight
Exports	250 tonnes dry weight
Shrinkage, wastage and losses	600-650 tonnes dry weight
Domestic consumption	3,300 – 3,700 tonnes dry weight

Marketing Pathways

The domestic marketing pathway begins with around 10,400 kava growers who sell mostly dried kava for cash payment in the village to various traders, agents and middlemen. Some kava growers also sell small amounts of kava locally in village or provincial town markets, and some is used within the rural communities to meet social obligations. However, the majority of the kava is washed, sun-dried and packed in sacks or bales and transported by road and inter-island shipping to the major urban centres where it is sold to processors, wholesalers and retailers.

The processors pound and package kava for retail sale. Some processors are also exporters who export either in raw or processed forms. Small amounts of kava are imported, mostly from Vanuatu. Some of this imported product may also be re-exported. The great majority of the kava is sold in raw or powdered form to retail customers through the municipal markets or speciality kava shops.

Kava Production

Cakaudrove, Kadavu, Lomaiviti and Bua are the major kava-growing areas of Fiji with some 64% of registered growers located in these provinces. On Kadavu, over 80% of all households grow kava. In Cakaudrove, Lomaiviti and Bua the equivalent is in the 35% to 42% range.

The great majority of Fiji's kava farmers are *iTaukei* unmechanised smallholders, farming less than one hectare of mataqali land. Most kava is grown using a combination of family and hired labour. Overall, only 2.1% of kava growers are women, but the percentage varies from negligible to up to 3%-4% in some provinces.

However, these figures greatly underestimate the role of women in the kava value chain.

Other Value Chain Actors

Intermediaries or middlemen fulfil an important role in the kava value chain as they connect farmers to the market. Middlemen can be market vendors, businesses, exporters or buying agents. Some have established packhouses to undertake primary processing: washing, sorting, drying and bagging. Exporters also engage middlemen and agents to procure kava on their behalf.

There are about 35 kava exporters registered with the Ministry of Agriculture (MoA) exporting kava to various destinations, but many of these are not currently active due to the high domestic prices making profitable exporting difficult. There are also two kava processing factories.

Markets and Marketing

The domestic market dominates Fiji's kava sector. The domestic market functions well, channelling kava from remote rural areas, mostly on the outer islands, to the main urban centres. Most of the kava is sold to consumers through vendors in the municipal markets and speciality kava shops in either raw or powdered form.

Fiji has experienced severe shortages of kava since Tropical Cyclone Winston in February 2016, exacerbated by a general shortage and strong demand for kava throughout the Pacific Island Countries (PIC) region. Consequently, prices have soared over the last two years to unprecedented levels and this has made it difficult for the exporters.

Over the last decade Fiji's exports of kava averaged 218 tonnes per annum, valued at FJD6.6 million. Exports grew steadily from 2007 until 2012, reaching 300 tonnes per annum, but have been erratic since then due to climatic events, including droughts and cyclones.

Fiji imported on average 186 tonnes of kava per annum over the last 10 years. Imports were more than 200 tonnes during five of the last 10 years. However, over the last three years import volumes have been significantly lower with Vanuatu being the source of almost all imports.

Since 2012 kava export prices have almost doubled and now average around FJD55/kg. Export prices in the USA market are consistently well above prices in other destinations.

Gender and Social Inclusion

The kava value chain is male-dominated at all levels. A very small portion of women participate as individual kava farmers while the majority participate at household level as supportive actors. There are also significant barriers to the participation of disadvantaged or vulnerable households/individuals and youth, mainly related to access to land and financial services. However, this is an issue that is not confined to kava farming. Kava is no more or less socially inclusive than other commercial farming activities in rural areas of Fiji.

The Kava Value Chain

The value chain analysis shows that at current prices, growing kava is a very profitable activity. Over a five-year cropping cycle, one hectare of kava can generate gross income of over FJD200,000 or FJD40,000 per annum on average. Since cash costs are quite limited, this delivers an average gross margin per hectare per annum of around FJD37,000 and a gross margin per labour day of FJD425. These returns are far in excess of any other crop.

The total gross income from kava sales amounts to around FJD320 million of which about 92% comes from domestic sales and 8% from exports. The largest amount of value addition occurs at the farm level where the approximately 10,000 kava growers generate a total gross margin of around FJD167 million, or FJD16,000 per grower per annum. Much smaller margins are earned by the traders, retailers and exporters, although these are far fewer in number.

General Conclusions

Fiji is experiencing a second kava boom. However, this one is distinctly different from the boom of the late 1990s which was driven by exports of kava to Europe. The current boom is fuelled largely by domestic and regional (PIC) demand with a small but important element of exports beyond the PICs.

Fiji is the second largest producer and consumer of kava, next to Vanuatu. Fiji kava has the advantage of being entirely of noble varieties which avoids health concerns in the domestic market, and gives importers greater assurance about the quality of Fijian kava.

Analysis of the kava value chain, including its gender equality and social inclusion aspects, confirms that kava is one of Fiji's most important agricultural commodities. Although the domestic market currently generates most of the revenue, and is much more easily accessible, kava exports still represent an important source of revenue for Fiji relative to other agricultural export commodities.

PHAMA and the Fiji MAWG have recognised the potential for increased exports in selecting kava as one of its priority commodities. The support provided by PHAMA through the survey of kava production, the kava quality manual, support for the Kava Task Force, the kava standards, and proposed development of regulations to accompany the Kava Act, all represent substantial steps in the right direction.

The measures supported by PHAMA have contributed to improving export performance in value terms during the last five years. Domestic demand and prices are also at record levels, which is making it difficult for the exporters. This indicates that increased, stable and sustainable production of kava is a high priority. Whilst this would see domestic prices ease, kava production would remain very attractive for growers, and exporters would be able to absorb the increased supplies.

Against a background of strong domestic and international demand, the proposed Kava Act will enable a much stronger regulatory regime which is needed to safeguard and stimulate development of the export sub-sector, and to assure the quality and safety of kava. PHAMA has a potentially valuable role to play in realising these outcomes. The challenge is the very different legal and regulatory regimes required in the domestic and export marketing pathways. Fiji needs to further differentiate the two marketing pathways to ensure that the export pathway has the required level of regulation and control, without disrupting the domestic pathway.

Recommendations

Fiji's kava industry has already laid many of the foundations for a successful and sustainable future based on a combination of domestic and export markets, with the domestic sub-sector likely to remain dominant. However, the industry has never had a formal strategic framework in place. It is therefore recommended that the Kava Task Force (and/or the Fiji Kava Council to be established under the Act) should take responsibility for the development of a Kava Strategic Plan. The key elements of such a plan may include some or all of the following:

- Creation of a revenue-raising mechanism, independent of the Government and donors, to help finance kava industry development.
- Measures to address gender equality and social inclusion issues, giving due recognition and reward for the role that women play in the kava value chain, and to facilitate greater participation of both women and youth.
- Measures to address environmental and sustainability concerns in kava-growing due to cultivation on steep hillsides with associated risks of soil fertility decline and erosion.
- Other interventions to boost kava yields, focussing on supply of high-quality planting materials through appropriate tissue culture and nursery propagation methods using disease-free material of the preferred varieties.
- Improvements in rural infrastructure and equipment, including access roads, vehicles, and washing, grading, transportation and packing and storage facilities.
- Improved access to financial services and financial literacy training by value chain actors, especially farmers, middlemen, nursery operators and vendors.
- Establishment of systems for certified organic kava in cases where price premiums are available and sufficient to cover the costs associated with organic certification.
- Establishment of laboratory facilities for testing and certifying kava according to its kavalactone content.

- Establishment of a quality assurance system covering all parts of the export marketing pathway and aligned to the forthcoming Codex Alimentarius regional kava standard.

- Development of a protocol for an official kava quality brand for export kava to be known as "quality assured Fiji kava" or similar. This would be best achieved through contract farming or out grower schemes involving fully integrated supply chain arrangements between kava growers and exporters.

- Issuing of export licences to eliminate disreputable traders from exporting kava without having gone through the inspection and certification procedures.

- Identifying one or two speciality kava provinces among the four major supplying provinces (all on outer islands) as focal areas for production of kava for export under a quality branding protocol.

- Measures to control the theft of kava through registration of kava growers (and de-registration for malpractice).

- Collection of better statistical information, particularly the age profile and yield trajectory of plantations and the losses incurred in the various marketing pathways.

- Better recognition and closer engagement of middlemen in industry fora.

- Identification of priority export markets in order to focus promotion activities where they will have the greatest impact.

- Examination of opportunities for value addition.

1

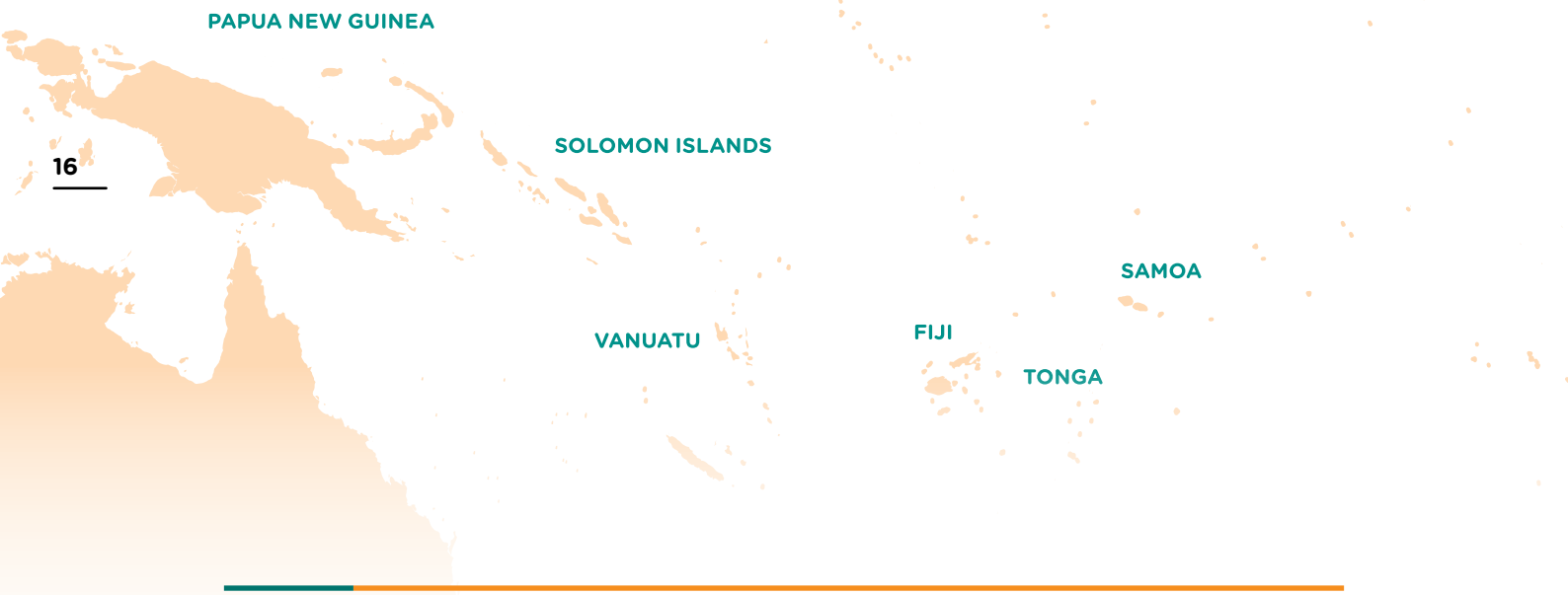
Introduction

1.1 Overview

The Pacific Horticultural and Agricultural Market Access (PHAMA) Program is an Australia and New Zealand-funded initiative launched in 2011 and funded through to June 2018. It is designed to provide practical and targeted assistance to help Pacific Island Countries (PICs) manage regulatory aspects associated with exporting primary products, including fresh and processed plant and animal products as well as marine and forestry products. This includes gaining access for novel products into new markets and helping to maintain and improve existing trade. Australia and New Zealand are the markets of major interest, along with export markets in East Asia and North America.

The core countries assisted through PHAMA include Fiji, PNG, Samoa, Solomon Islands Tonga, and Vanuatu. PHAMA also provides assistance to other PICs through the Secretariat of the Pacific Community's (SPC) Land Resources Division.

The PHAMA regional office is located in Suva, Fiji. Smaller country offices are operated in all PHAMA countries and staffed by dedicated National Coordinators.



1.2 PHAMA Support for the Kava Sector

PHAMA in Fiji

PHAMA's strategy in Fiji is to support government and industry to utilise export opportunities for agricultural products, identify and develop new export opportunities for fresh and processed products, and strengthen contingency planning and surveillance for pests and diseases of plants and animals.

PHAMA's current work in Fiji focuses on four sectors: kava, (known as yaqona in Fiji), root crops, sea urchins, and quarantine export operations to improve exporters' capacity to develop and implement export protocols required by trading partners.

Support for the Kava Sector

PHAMA's support for the kava in Fiji sector is based on the view that there is strong potential to regain the significant export earnings that were experienced in the "kava boom" of 1990s when kava was exported for use as a traditional beverage, and to the European Union (EU) as an ingredient for dietary supplements and nutraceutical products.

The market access issues being addressed by PHAMA go back to the "kava boom" and the concerns in some markets over poor quality and potential health effects. This resulted in a ban on kava imports to the European Union (which was not lifted until 2015) and brought the boom to an abrupt end. Although there has been a strong recovery in the industry in recent years, there are ongoing concerns related to strengthening the production and regulatory systems in Fiji and other kava-producing countries to ensure the quality of exports and confidence of buyers, consumers and regulatory agencies.

The Fiji Market Access Working Group (MAWG) established through PHAMA, and the Ministry of Agriculture (MoA) have confirmed the ongoing priority of kava in terms of improving quality. This includes developing simple tests to differentiate between good and bad quality kava, and providing greater opportunities for the large producer base across the country. The principal activities supported by PHAMA in the Fiji kava sector include:

In 2014-15, PHAMA collaborated with MoA to complete surveys of the major kava production areas across Fiji to identify and describe the varieties being grown, document the different production methods and, together with the University of the South Pacific, conduct chemical (kavalactone) analysis of the plants. Understanding kavalactone profiles and concentrations and how to improve consistency in kava products is an important aspect of producing quality kava for export markets. The survey confirmed that 13 varieties of kava are commonly grown in Fiji and all are considered "noble" varieties, or those preferred for human consumption. However, significant differences were noted in the way that kava was grown and processed by farmers in the various parts of Fiji.

In collaboration with MoA and the private sector, the information from the kava surveys was used to develop a comprehensive kava quality manual and awareness materials on how to produce quality kava products for export.

PHAMA also supports the Kava Taskforce – a government-industry body established by MoA in 2014 to develop the kava industry on strategic planning and industry representation. The Taskforce has drafted an industry plan (2015-19) covering priorities across research, and standards, and supply and marketing. Additional to this, legislation has been developed for the establishment of a representative industry organisation, the Fiji Kava Council, and regulation of the trade in kava.

Preparation of a set of national standards for kava (similar to the standards prepared by PHAMA in Vanuatu) will be supported. Drafting of regulations to accompany the Kava Bill to be undertaken by early 2018 when the bill is expected to pass into law following parliamentary approval.

PHAMA's assistance to the Fiji kava industry is aimed at improving quality assurance systems and standards to ensure that market access is maintained and the volume and quality of exports increased. PHAMA's efforts so far have

raised awareness of correct production, processing and storage at all levels of the value chain.

Tropical Cyclone Winston in February 2016 caused widespread damage to kava plantations, which has led to lower supplies and much higher prices during 2016 and 2017 (see Annex 7, Case Studies "Rising from the Ashes").

The kava industry and the Government are committed to rebuilding production and growing the export of quality kava products to benefit the large portion of the population that is directly and indirectly involved in this value chain.

The PHAMA 2016-2017 Work Program

During 2016 and 2017 PHAMA supported three main activities in the kava sector: (i) value chain analysis with emphasis on gender equality and social inclusion (GESI); (ii) re-printing and distribution of the kava quality manual and kava standard; and (iii) propagation of kava planting materials through tissue culture and nursery production.

The value chain analysis, which is the subject of this report, aims to better inform the approach and support to be provided through PHAMA and other programs by documenting and analysing the value chain in its totality and identifying the characteristics, challenges and opportunities for the industry. This recognises that while much anecdotal information is available on the kava industry in Fiji, a systematic value chain analysis has never been attempted. The specific objectives of the analysis are to:

- Prepare a value chain map for the kava product(s).
- Put accurate information onto the map.
- Identify the services each value chain actor provides and the returns received for these services.
- Identify the roles, responsibilities, expectations and challenges of all participants differentiated between women and men.
- Assess the markets and the competitiveness of the value chain in servicing these markets.
- Assess the vulnerability of the value chain through identifying the strengths and weakness of the actors along the value chain, and ways to capitalise on strengths and minimise on weaknesses.
- Develop a plan to improve the value chain addressing the needs of each group of actors.
- Identify the needed support services, including financing, and strategies for strengthening the relationship with other actors in the value chain as well as suggested improvements for future development.

As kava production is generally regarded as a man's job, there is particular interest in the contributions provided by women, youth and other disadvantaged or vulnerable groups.

The expected short-term outcome of the analysis is improved quality of the kava value chain that can be used as a baseline for future intervention(s) by the PHAMA Program, the Government and or other key stakeholders, including initiatives to address gender equality and social inclusion issues. The expected longer-term outcome is a strengthened and expanded kava industry as a result of well-informed interventions.

The value chain analysis is an appropriate methodology for study as the processed final product is very much determined by the variety and quality of kava produced by farmers and the way it is harvested, handled and processed at all stages in the value chain. It is important to identify the linkages and interaction among the actors in the value chain. Desired development outcomes depend on the functioning of the entire value chain. One group of actors or segment in the value chain cannot be improved without improvements in the other segments.

1.3 Study Methodology

The study was undertaken by one international and six national consultants:

David Young	International TA/Agribusiness Specialist
Waisiki Gonemaituba	National Team Leader
Lanieta Vakadewabuka	Gender and Social Inclusion Specialist
Netani Rika	Interviewer & Media Specialist
Simione Tukidia	Videographer
Samuela Netzler	MoA Liaison Officer
Pauliasi Tuilau	Principal Economics Planning Officer, MoA

Logistical support and guidance was provided by Losalini Leweniqila (PHAMA National Coordinator, Fiji).

The value chain analysis adopted both qualitative and quantitative approaches using structured interviews and focus group discussions using pre-determined topics with key informants identified by MoA. An interview guide (see Annex 8) was prepared to include both socio-economic issues and gender issues. The visit sites were identified by MoA using both MoA and FCLC (Fiji Crop and Livestock Council) kava stakeholder data bases.

Interviews and discussions were carried out in five major kava-planting areas in Fiji: Bua, various parts of Cakaudrove including Taveuni, Kadavu, Levuka and Macuata. With data limitations to identifying and locating individual women farmers, more interviews were recorded for women participating at household level. Their information provided some insight into the constraints encountered by women and other relevant information. It is noted that due to time constraint and limited data available, a qualitative approach was appropriate to gather information surrounding the participation of women in the kava value chain.

The analysis was conducted in several phases in July-August 2017. The first phase involved extensive fact-finding and consultations with stakeholders, including kava growers, traders, processors, wholesalers and retailers, service providers, exporters and regulatory agencies. This included visits by the national team members to five major kava-planting areas: Bua, various parts of Cakaudrove including Taveuni, Kadavu, Levuka and Macuata; as well as consultations in Suva with kava traders and exporters and the major regulatory and support agencies. Initial findings were discussed in a meeting between the study team and the Fiji MAWG on 9th August 2017, and the Kava Task Force on 11th August. A half-day workshop to undertake further consultations, including a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, with a range of kava sector stakeholders was held on 16th August.

2

Background

2.1 General

Around half of Fiji's population lives in rural areas where their livelihoods depend largely on agriculture, livestock, fishing, forestry and related activities. Kava makes a significant contribution to rural livelihoods in some parts of the country, particularly on the outer islands where there are limited other opportunities, and is also important in cultural and social dimensions.

It is one of the most important cash crops in some rural areas as well as employing large numbers of people in harvesting, processing and retail operations. Kava is widely consumed in Fiji but is also exported in significant quantities to countries including Kiribati, USA and New Zealand. Kava is traditionally consumed as a beverage diluted with water.

There is also a market for kava as a herbal medicine[1] as an alternative to pharmaceutical sleeping and anti-anxiety medication, which has significant market value internationally.

2.2 Agricultural Sector Overview

Analysis of the kava value chain needs to be considered in the context of the overall agricultural sector. Fiji's agricultural sector is generally considered in three parts: sugar, non-sugar commercial, and subsistence. The sugar sub-sector has struggled in recent years due to loss of preferential access to the EU market, the expiry of many of the long-term leases for sugar lands, and the financial difficulties of the Fiji Sugar Corporation. The non-sugar commercial sub-sector is where horticultural export crops are mainly grown, and has shown improvement in performance over the past decade with the development of export market outlets, mainly to New Zealand as well as the growth of the domestic market, supplemented by tourism. The subsistence sub-sector is the basis of livelihood for around a third of the population and mainly focuses on traditional fruits, vegetables and root crops with some produce entering domestic market channels, but very little being exported.

Fiji's population is approximately 865,000 of which 49% reside in rural areas. They very much depend on agriculture as a source of income and employment. The majority of farmers in rural areas are either semi-commercial or subsistence farmers with average farm sizes of 5 to 10 ha. Although the contribution of the agriculture sector to GDP is flat, it remains an important sector of the economy in terms of income generation and food security, and to support diversification due to the decline of the sugar Industry, and to provide foreign exchange earnings.

Over the last two decades the contribution of the agriculture sector to GDP declined from 15.6 per cent in 1995 to 8.2 per cent in 2011. As shown in Table 1, since 2011 the sector has stabilised at around 9-11% of GDP.

[1] Kava is also sometimes described as a "nutraceutical" although this is not strictly correct. Nutraceuticals (also known as functional foods) are food products that are intended to provide health benefits in addition to the basic nutritional value. Since kava has no or negligible value as a food, it may be misleading to refer to it as a nutraceutical.

	2011	2012	2013	2014	2015	2016(p)
Total GDP	5,739	6,000	6,429	7,066	7,610	8,015
Agriculture						
Subsistence	152.5	156.0	158.5	164.6	173.7	174.4
Commercial	320.1	372.1	456.6	483.1	517.2	750.1
Total Agriculture	472.6	528.1	615.1	647.7	690.9	924.5
% Agriculture	8.2	8.8	9.6	9.2	9.1	11.5

The sugar industry contributes to around 7% of GDP, generates on average 30% of total domestic exports and provides direct and indirect employment to over 50,000 people, consisting of approximately 18,000 growers, 3,000 FSC employees and 17,000 cutters and drivers. In total, over 250,000 people are directly or indirectly involved in the sugar industry. However, FSC is currently dependent on continuing government financial assistance. The major challenge for the industry is the expiry in 2017 of preferential access to the EU market which has been in place since 1975.

The non-sugar component contributes around 6% of GDP and accounts for 14% of agricultural exports. It constitutes traditional food crops (dalo, cassava, yams, kumala and kava), tropical fruits (pineapple, papaya and mango), vegetables, pulses, eggplants, ginger, tobacco, rice, spices, cocoa, coconut produce, beef, dairy, pork, poultry meat, eggs, sheep, goat and bee products. The major export commodities are root crops (dalo, cassava and yams), fruits (papaya, pineapple, and mango), and vegetables. Kava is also a significant export earner, although the domestic market is far more important.

2.3 Institutional Framework

Fiji has four key institutions which are essential for the development and maintenance of the agricultural export sector. These are:

The Ministry of Agriculture (MoA) which provides the necessary research and extension support for agricultural production and marketing, and plays a key role in supporting farmers to respond to new export marketing opportunities.

The Biosecurity Authority of Fiji (BAF) was created in 2011 and has a key role in administering the Fiji-New Zealand Bilateral Quarantine Agreement (BQA) which has underpinned the establishment of a vibrant fresh produce export trade with New Zealand. BAF is also responsible for maintaining a high level of quarantine protection for Fiji – which is itself important in accessing export markets.

The Agricultural Marketing Authority (AMA) which is an autonomous parastatal company with a mandate to facilitate marketing of agricultural and commodities for farmers and fishers in remote rural areas and to develop domestic and export marketing pathways. AMA operates an integrated agro-industrial and marketing facility at Nausori.

The Fiji Crop and Livestock Council (FCLC) was established in 2013 as an apex body to represent the needs of farmers to the Government and

stakeholders, including financiers, donors, rehabilitation agencies and potential investors. It aims to raise the profile of Fiji's farmers involved in crop and livestock production. FCLC was established in conjunction with agricultural associations to improve agri-food productivity, and works closely with MoA in addressing issues that affect its members.

2.4 Policy Framework

Despite stagnation and challenges, successive governments in Fiji have been committed to the revitalisation of the agricultural sector. A sugar industry re-structuring master plan is currently in place outlining the way forward for the sugar industry. The Government is also committed to the revitalisation of the non-sugar sub-sector due to the decline in sugar production, and also to improve exports and food security. The policy goal is "to establish a diversified, economically and environmentally sustainable agriculture sector". To achieve this, goal four key outcomes have been identified:

- To build a modern agriculture sector in Fiji as an organised system of producing, processing and marketing crops, livestock and agriculture products.
- To develop an integrated production, processing, energy and transport infrastructure support system to improve delivery of agricultural services.
- To enhance capabilities to generate and secure foreign investment and public-private partnerships and other innovative business arrangements.
- To improve project implementation and policy formulation capabilities within MoA and its partner institutions.

The major emphasis is on strengthening linkages along agricultural value chains from production, distribution, storage, marketing and value-addition to improve efficiency for the sector to be a driver of economic growth. This will help alleviate poverty, build food security and self-sufficiency and raise the level of exports. Programs and projects are being developed to support mechanisation, value-addition, organic farming and build capacity within the sector.

Commodity and industry plans are being developed to map out clear strategies on key commodities identified. Collaboration and co-ordination with bodies such as FCLC and other industry players are being nurtured to drive efficiency, quality and the establishment of standards. Effective support to farmers through extension services will be strengthened to facilitate the transfer of appropriate information, including farming practices and market information. One aspect of the strategies is to graduate small farmers to semi-commercial to fully commercial farmers. This will be undertaken through selective identification of potential commercial farmers, and young farmers are to be encouraged to take up farming to be professional and be provided with all the necessary tools and support.

The Fiji 2020 Agricultural Sector Policy Agenda was prepared in 2014. Its goal is to establish a diversified and economically and environmentally sustainable agriculture economy in Fiji. Its five objectives are:

i. to build modern agriculture in Fiji as an organised system of producing, processing, and marketing crops, livestock, and aquaculture products;

ii. to develop integrated production, processing, energy, and transport infrastructure support system for agriculture;

iii. to improve delivery of agriculture support services;

iv. to enhance capabilities to generate, fund and secure investment through foreign investment, private public partnership, and other innovative business arrangements; and

v. to improve project implementation and policy formulation capability within MoA and its partner institutions. Each of the objectives has a corresponding set of interrelated strategic actions to be carried out.

The National Export Strategy (NES) was developed in 2006 by the Ministry of Industry, Trade and Tourism to achieve sustainable economic growth through encouraging competitiveness, value-addition and export diversification in areas of competitive advantages. Six major sectors are prioritised to improve export performance, address the challenges of reversing the widening trade deficit, and the need to stabilise the country's foreign reserve position. These sectors are agro-business, forestry, marine products, mineral water, ICT and audio-visual.

3

The Kava Value Chain

3.1 Overview

Although kava has been grown and consumed in Fiji for centuries, statistics on production were recorded only in the recent past when kava became an important cash crop. Whilst the statistics are incomplete, it is possible to make some broad estimates of the key industry metrics as follows:

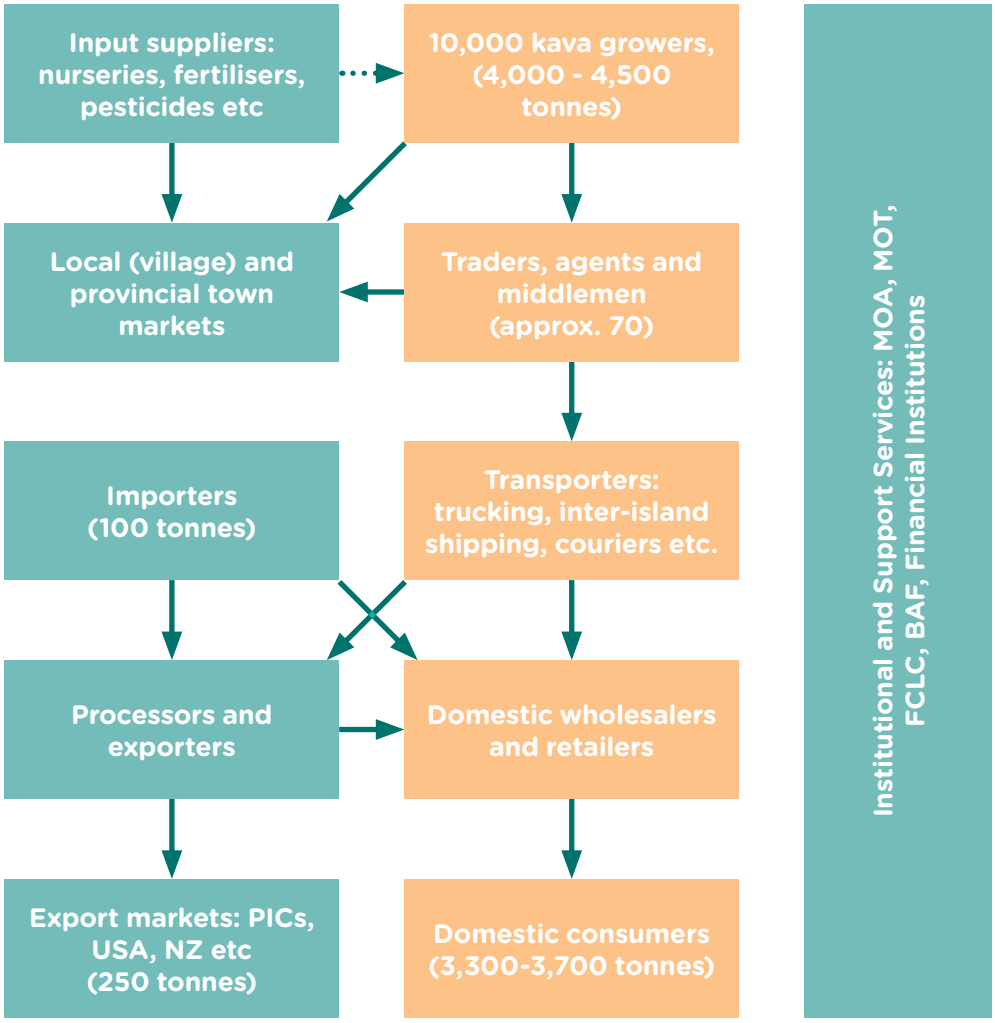
No. of kava growers	10,400 (1 in 8 rural households)
Area of crop	4,000 – 5,000 hectares
Area harvested annually	1,000 – 2,000 hectares
Yield	2.6 – 2.8 tonnes/ha harvested
Kava produced	4,000 – 4,500 tonnes dry weight, farmgate
Imports	100 tonnes dry weight
Exports	250 tonnes dry weight
Shrinkage, wastage and losses	600-650 tonnes dry weight
Domestic consumption	3,300 – 3,700 tonnes dry weight

The above estimates are crucial to obtaining a clear understanding of the kava sector in Fiji. They represent averages of the last five years, based mainly on the statistical reports produced by MoA and the international trade statistics supplied by the Fiji Bureau of Statistics. The estimates confirm the importance of the domestic market, which accounts for over 90% of the kava utilised.

As shown in Figure 1 below, the domestic marketing pathway (shaded boxes) begins with around 10,400 kava growers[2] who sell mostly dried kava for cash payment in the village to various traders, agents and middlemen. Some kava growers also sell small amounts of kava locally in village or provincial town markets, and some is used within the rural communities to meet social obligations (weddings, funerals etc.). However, the majority of the kava is washed, sun-dried and packed in sacks or bales and transported by road and inter-island shipping to the major urban centres such as Nadi, Suva and Lautoka where it is sold to processors, wholesalers and retailers. The processors pound and package kava for retail sale. Some processors are also exporters who export either in raw or processed forms. Small amounts of kava are imported, mostly from Vanuatu, and used to supply the domestic wholesalers and retailers. Some of this imported product may also be re-exported, probably blended with Fijian kava. The great majority of the kava is sold in raw or powdered form to retail customers through the municipal markets or speciality kava shops.

[2] The 2009 agricultural census identified over 20,000 farms with some kava growing. This includes farms with very small amounts of kava grown, mainly for household consumption. MoA's estimate of 10,400 growers includes only registered growers. It is also possible that the number of growers has declined between 2009 and 2016

Figure 1: Major Marketing Pathways for Fiji Kava



The economic importance of kava is evident from its contribution to GDP. Table 2 shows the strong growth of the kava industry compared to the two main export crops of sugar and taro, and the crops sector in total.

Table 2: National and Agricultural GDP and Contribution of Principal Crops (in Constant 2011 FJD millions)

	2011	2012	2013	2014	2015 (p)
National GDP	5,739	5,820	6,095	6,437	6,667
Agricultural GDP	473	465	497	500	542
Crops	221	219	246	242	287
Kava	39	54	66	68	113
Sugar cane	69	43	44	50	51
Taro	40	35	51	37	36

Source: Fiji Bureau of Statistics and MoA; p = provisional

3.2 Kava Production

Cakaudrove, Kadavu, Lomaiviti and Bua a re the major kava-growing areas of Fiji as illustrated by Figures 5 and 6 in Annex 1. This is also evident by looking at the provincial distribution of kava growers registered by MoA as shown in Table 3. Some 64% of registered kava growers are located in the four main major kava provinces. The right-hand column of Table 3 shows the number of kava growers per 100 of total population where it is seen that the four main kava provinces have a high percentage of households growing kava. If it is assumed that 100 people represent 17 households (six persons per household) it is apparent that in Kadavu over 80% of all households grow kava, more if only rural households are counted. In Cakaudrove, Lomaiviti and Bua the equivalent is in the 35% to 42% range. Outside these provinces only Namosi has a relatively high percentage of kava-producing households.

Table 3: Number of Kava Farmers by District (2016)

Province	Males	Females	% Female	Total	% of Total Kava Farmers	Growers per 100 population in Province	per 100 of population in the Province
Cakaudrove	3,005	31	1.0	3,036	29.0	50,494	6.0
Kadavu	1,523	6	0.4	1,529	14.6	10,856	14.1
Lomaiviti	1,155	36	3.0	1,191	11.4	16,542	7.2
Bua	889	28	3.1	917	8.8	16,012	5.7
Naitasiri	787	16	2.0	803	7.7	173,672	0.5
Macuata	662	25	3.6	686	6.6	65,995	1.0
Ra	429	17	3.8	446	4.3	30,533	1.5
Namosi	406	20	4.7	426	4.1	7,544	5.6
Ba	380	10	2.6	390	3.7	238,802	0.2
Nadroga	359	12	3.2	371	3.5	58,300	0.6
Tailevu	322	10	3.0	332	3.2	61,765	0.5
Rewa	159	1	0.6	160	1.5	103,255	0.2
Serua	139	6	4.1	145	1.4	19,402	0.7
Lau	22	0	0.0	22	0.2	10,623	0.2
Rotuma	17	0	0.0	17	0.2	1,814	0.9
Total	**10,254**	**218**	**2.1**	**10,471**	**100.0**	**865,609**	**1.2**

3.3 Production Systems

Most kava is grown on steeply sloping land under bush-fallow rotation on plots that are remote from the villages. Farmers have a preference for steeply sloping land because of good drainage and also because it is easier to harvest and transport the kava downhill. However, this does present an erosion risk and more training and awareness-raising on sustainable land management is required.

Soil fertility management is an important issue in kava-growing under the traditional bush fallow system, which accounts for the bulk of production. Little is known about the nutrient requirements of kava or of the nutrient status of the soils in which it is grown. No soil testing is undertaken. Some farmers apply fertilisers, but there is limited use of other soil management methods such as mulching, cover crops, contour planting and crop rotation. Facilitating the adoption of management methods to promote soil fertility, proper use of fertiliser, organic inputs, use of improved varieties, planting on slopes, and improved knowledge on how to adapt these practices to local conditions, is critical to maintaining productivity levels.

Kava is susceptible to high temperatures and water stress, particularly when young. Climate change (especially increased temperatures) is expected to increase the frequency of hot/dry periods which can destroy kava plants or severely curtail their growth. A range of appropriate soil and water management techniques is available to mitigate the effects of climate change, which need to be part of the package of good agricultural practices (GAPs) promoted to kava growers.

Kava is a traditional crop, grown for many generations in scattered plots and mixed plantations along with other crops. Some farmers practise intercropping with three crops: kava, taro and yams, with a good humus cover which is sustainable. These methods have proven themselves over time. However, intensive production of kava as a commercial crop entails a different skill set. Many growers lack awareness and training on GAPs, including pre-harvest and post-harvest management such as proper drying methods. Because of the large amounts of cash generated at harvest time, financial literacy and financial management skills also need to be developed. Training materials, such as posters and pamphlets, are needed to improve not only farmers' knowledge but also extension staff. The Kava Quality Manual produced by PHAMA is an excellent resource but needs to be made more widely available in rural areas both in multiple languages and simplified forms.

Whilst kava is not particularly susceptible to pests and diseases, kava dieback and root nematodes can be problematic. Both diseases can be managed or controlled through good crop hygiene and crop rotation, but more awareness-raising and training is needed.

The 13 noble varieties recognised in Fiji (classified and described by PHAMA) have different names in different districts. Different varieties are preferred in different districts due to agronomic characteristics such as early maturity or higher yield. However, most growers lack knowledge of the varieties required by the market. There is a need to develop standard/uniform names for the 13 varieties linked to their phenotypes and chemotypes and what the market requires. More awareness and training on the Kava Quality Manual is also needed.

Growers report that there is a shortage of planting material for some varieties. There are several possible reasons for this: (i) growers are planting multiple nodes due to poor survival rates; (ii) there is a strong uptrend in the amount of kava being planted compared to the amount harvested; (iii) demand for some varieties is growing faster than for others; and/or (iv) farmers are not offering planting material for sale when they harvest. Whatever the reason, or mix of reasons, there is clearly a need to accelerate production of planting

materials through the use of tissue culture and nursery propagation. In addition to addressing the shortage, these propagation methods also have major benefits in terms of disease control, varietal selection and reduction in the time to maturity. Some farmers are using growth stimulant (rooting hormone) to dip their nodes which they claim boosts root and leaf growth and also seals off wound on cut stems. It is claimed that a strong, healthy seedling produced in a nursery will reduce the time to harvest by one year compared to direct planting.

The long/intense drought experienced in 2014-15 highlights the value of nurseries. In the North (Dogoru in Macuata), a farmer direct-plants kava during the rainy season from November to March, and switches to planting nursery seedlings during the dry season in order to maintain a year-round planting program.

The provision of timely technical advice and services is impeded by a lack of resources in remote rural areas like vehicles to enable staff mobility. For example, the province of Bua has great potential for kava production, but MoA has only one vehicle to service a very large area. There is a great challenge to the resource and capacity of the extension services to assist every farmer in the crop or livestock sector and for every commodity. Hence, facilitating an improved and focused assistance will be critical to achieving sustained growth in the sector.

Selling green kava is a quick way of earning cash for some farmers as there is a demand from buyers. However, selling of green kava also encourages theft as reported on Taveuni and other parts of Cakaudrove Province. Green kava can be harvested, bagged, sold and paid for immediately, whereas dried kava takes time to dry and presents a high possibility of thieves being caught. For unscrupulous individuals it can be relatively simple to harvest one, or many, plants belonging to someone else and quickly sell with virtually no traceability. Green kava sales have been banned on Taveuni by the Commissioner North because of kava theft.

One of the major processors of kava purchases only green kava with roots, stump and little part of the stem to identify the variety as they are only looking for a certain variety with high kavalactone. However, most kava sold by farmers is in dried form.

Consultations with kava farmers during the field work phase of the value chain study identified a list of principal constraints to kava production in Fiji. These include:

- Lack of feeder and farm roads to enable intensive and expanded kava production
- Shortage of supply of planting materials of the recommended varieties and lack of tissue culture materials and skills
- Natural disasters such as cyclones and droughts
- Lack of tools and equipment such as chainsaws to help clearing of new farm sites
- Lack of soil testing before planting
- Lack of funds for growers to help them in their planting program (linked to poor financial management skills and lack of collateral assets)
- Subsistence farming mentality and poor time management among farmers

- Lack of quality control and assurance systems to guide farmers
- Occurrence of kava dieback disease and root nematode infestation
- Farming mataqali land
- Lack of participation of women and youth (see Section 3.7 and Annex 4)
- Increase in kava theft
- Issue of planting on steep slopes
- Lack of advisory services

3.4 Value Chain Actors

Kava Growers

The great majority of Fiji's kava farmers are *iTaukei* unmechanised smallholders, farming less than one hectare of *mataqali* land. Most kava is grown using a combination of family and hired labour. For routine maintenance work, it is mostly unpaid family labour (including women, children and other extended family members) but for heavy tasks like bush clearing, digging, planting and harvesting, hired labour is also used. Most hired labour comes from within the local community, occasionally from nearby towns or villages. Some farmers have concerns about using hired labour for planting as they want to be sure that the job is done correctly. To make work easier, *iTaukei* farmers pool together their own labour and undertake rotational work on each group member's farm (*solesolevaki*). This arrangement has become popular also with the Indo-Fijian community, in particular on Taveuni.

There are very few specialist kava farmers. However, several of these are profiled in the case studies in Annex 7. Kava is usually the principal cash crop in a mixed semi-commercial/semi-subsistence farming system. Typical smallholder kava growers grow a range of traditional food crops (dalo, cassava, vegetables etc.), some of which may be sold when surpluses are available, keep small livestock, and may also do some fishing. They usually have one or more kava plots in a bush-fallow rotation on the high, steeply sloping land often quite distant from the village. Smaller kava growers maintain a few hundred to a thousand kava plants at planting densities of 4,000 to 8,000 plants per hectare. Larger growers maintain 5,000-10,000 plants and regularly use hired labour for bush clearing, planting and harvesting.

Overall, only 2.1% of kava growers are women but the percentage varies from negligible to up to 3-4% in some provinces. However, as is shown in Section 3.7, these figures greatly underestimate the role of women in the kava value chain.

Producing kava on customary land presents a challenge when seeking finance from banks, government departments and international development projects where freehold title or registered leases are generally required as collateral. It presents special problems for young people seeking to establish careers as small-scale commercial farmers. This is a problem in rural communities generally and is not unique to kava growing. However, there are some innovative approaches to youth engagement in kava farming – See Annex 7, Case Studies, "Youth With a Mission".

There is interest from some farmers to practise organic farming and some sectors of the export market that can

earn premium prices for certified organic products. This could be an opportunity for some kava farmers if they have not applied any chemical fertiliser, herbicides or pesticides on their land. Organic farming should be explored further as there are also costs involved, especially where certification and auditing is required to verify that all systems and processes for organic farming have been complied with.

Record high prices for kava in recent years have delivered significant financial benefits for growers. The impacts are visible with new houses, twin-cab vehicles, purchase of houses in towns, and new farms – see case studies in Annex 7. Some farmers are beginning to treat kava as a serious commercial venture with scheduled planting to produce a regular cash flow and ensuring that they always have some kava plants ready to harvest, to act as their bank. This is particularly important in light of the limited penetration of banking services in rural areas. Most kava farmers have established relationships with buyers/ middlemen who may also supply inputs, like corrugated iron, fertiliser, chemicals, and cash if requested, for family function etc.

Whilst kava production at current prices is clearly very profitable, far more so than any other crop, there are also risks involved. These include theft (see Annex 7, Case Studies "One for the Thieves"), pest and disease damage (e.g. kava dieback), strong wind damage and drought, all of which may damage or destroy the crop or delay harvesting.

Some kava farmers are making efforts to organise themselves into groups, associations, co-operatives etc., to exercise better control of quality and maintain the good prices received. Some producers want to see kava channelled through a cooperative where farmers can be shareholders and for the Government to act as a buyer of kava (see Annex 7, Case Studies, "Growers Want a Voice".

Agricultural Inputs

Few inputs other than labour are used in kava production. However, growers who wish to use fertilisers, herbicides, pesticides etc., can obtain these from agro-dealers in the major urban centres such as Taveuni (MH), Labasa, Savusavu, Bua, Seaqaqa, Kadavu (KEM's store, URO store).

Some growers, particularly first-time growers, need to purchase planting material from other growers in the form of cuttings. Several commercial nurseries offer seedlings for sale, but these have not yet established a significant market share, despite the well-recognised advantages of transplanting compared to direct planting.

There are several tissue culture laboratories in the country that are engaged with kava propagation. One of the private tissue culture laboratories was recently contracted by MoA to produce one million tissue cultured kava plantlets. The arrangement by the Ovalau processing operation envisages establishment of a tissue culture lab to propagate the required variety and nurseries to support supply of planting material. It will also launch a Participatory Guarantee System group to cultivate organic tissue cultured kava and to supply the processing factory with a target of five tonnes of green kava a week.

Financial Services

As a high-value cash crop, financial services are an important, but underdeveloped, element of the kava value chain. The services needed by kava growers include loans for the establishment and maintenance of kava plantations for 3-4 years until harvesting begins; the capacity to process transactions and payments to growers, especially those in remote areas without direct access to banking services; and a range of savings and investment products to enable good household financial management of the proceeds from kava sales.

Despite the lucrative nature of kava production, Fiji's banks are cautious about lending money to farmers, mainly because of their lack of collateral assets and because of the high cost of servicing customers in rural areas. Kava growers are therefore considered by the banks, along with other farmers, as high-risk customers. This is a major impediment to investment in kava production.

The Fiji Development Bank (FDB) is more accommodating to farmers than the commercial banks, but agricultural sector loans are still only 10% of its portfolio. FDB offers agricultural loans at 5-8% interest rate, and under the "Look North" policy of the Government the bank is offering a reduced rate of 3-5% for agricultural loans in the northern part of Fiji. Other sources of funding for agriculture include grants allocated by MoA and other government departments. Various microfinance schemes also provide some access to capital for kava growers.

Financial services are much more readily available to kava traders, processors and exporters as formally constituted urban-based businesses with well-established banking relationships. Some of these also provide funding for kava growers as part of their efforts to secure reliable supplies.

Traders, Agents and Middlemen

Intermediaries or middlemen fulfil an important role in the kava value chain as they connect farmers to the market. Middlemen can be market vendors, businesses, exporters or buying agents. Some have established packhouses to undertake primary processing: washing, sorting, drying and bagging. Exporters also engage middlemen and agents to procure kava on their behalf.

There are some perceptions that middlemen are an un-necessary or exploitative part of the value chain – see Annex 7 Case Studies, "Growers Want a Voice". This perception is fuelled by a lack of understanding regarding the value added by intermediaries, and the important role they play in the value chain. These misunderstandings could be resolved if farmers were better informed about how market requirements and post-harvest losses along the chain impact on profitability, prices and terms of trade. Improving the information flow between farmers and retail markets, and improving understanding of how value chains work, will be critical to resolving this issue. Some remote kava-growing areas still lack mobile phone coverage which limits access to market information. Improving interaction with and understanding market requirements will be overcome through improved communication along the value chain using e-technology, hence more training is needed from MoA and other (training) institutions.

Transport

As a high-value, non-perishable commodity, kava is ideally suited to production in remote areas where transport services are not well developed. This is vitally important in a country such as Fiji with many islands and inaccessible mountainous areas where much of the kava is grown. Almost two-thirds of Fiji's kava and perhaps 80% of the kava reaching the main urban markets is produced in the outer island provinces of Cakaudrove, Kadavu, Lomaiviti and Bua. There are regular shipping services to these provinces. Farmers often transport kava to the provincial ports in small fibre glass boats. Roll-on-roll-off is also available to transport trucks to and from islands.

Freight charges for kava from the outer islands to Suva and Nadi are FJD 1.00 per kg which is not a major consideration for such a high-value product. Some companies also offer courier services to move packages of kava from Taveuni, Savusavu and Labasa to Suva and Nadi.

The biggest challenge in transporting kava is from the growing areas on remote hillsides to the villages where it is washed and dried, and from the villages to the ports. The first stage of the process involves movement of freshly harvested kava by hand carrying or horse transport. In most cases there is no road or vehicle access to growing areas. Most kava growers sell their product to agents or middlemen in the village who then have to transport it in small trucks or boats to an aggregation or shipping point.

Processors and Exporters

There are about 35 kava exporters registered with MoA exporting kava to various destinations, but many of these are not currently active due to the high domestic prices making profitable exporting difficult. There are also two kava processing factories, one based on Ovalau and one in Veisari near Suva. There are a few other bigger players with value-adding intent emerging in the North.

Processors and exporters employ a range of methods for sourcing kava. Some simply buy from the intermediaries described above who have their own procurement networks and collection/transport/storage facilities. Others have semi-structured arrangements with individuals and/or groups of kava growers who supply them on a regular basis.

One exporter has developed a formal out-grower scheme where smallholders are supplied with inputs (including land) and grow kava under controlled protocols for export to the USA. This whole value chain arrangement is intended to guarantee consistent supply of highly specified product for sale to the USA. Whilst the volumes traded in the different marketing pathways are not known, the majority is likely to be in the informal or semi-structured channels.

The biggest problem faced by processors and exporters is the quality of kava received. They claim that the material is not properly washed and dried. The processor/exporter has to re-wash and re-dry the kava which takes up a lot of time and money and incurs weight losses of 15-20%. One processor is promoting a new technology for solar drying with clear plastic as roof cover, and ventilation on the side.

Estimates of shrinkage, wastage and losses in the value chain are purely anecdotal, and no measurements have been made. The main contributing factors are reported to be weight loss due to drying, poor control of or inadequate drying leading to mouldiness, removal of soil during re-washing, and theft. Improved post-harvest management, particularly washing and drying at village level, appears to be critical in reducing quantitative and qualitative losses throughout the marketing pathway.

Another area of concern is the pounding of kava into powder in small pounding shops as they face a lot of sanitary or hygiene issues. There is a need to carry out health and safety checks on pounding machines. This calls for the need to have regulations, systems and processes to be in place, complying with sanitary and phytosanitary measures to meet Fiji's obligation to Codex and World Trade Organisation (WTO) protocols in the export marketing pathways, and to Fiji health and food safety regulations in the domestic market.

Processors and exporters compete in international markets and therefore rely on a regular supply of high-quality raw materials at prices that allow them a reasonable margin. However, farmers are not well informed about the consistency of supply and quality standards required by increasingly sophisticated markets, particularly the USA.

3.5 Markets and Marketing

The domestic market dominates Fiji's kava sector and this is likely to remain so for the foreseeable future. The domestic market functions well, channelling kava from remote rural areas, mostly on the outer islands, to the main urban centres of consumption. Most of the kava is sold to consumers through vendors in the municipal markets and speciality kava shops in either raw or powdered forms.

Fiji has experienced severe shortages of kava since Cyclone Winston in February 2016, exacerbated by a general shortage and strong demand for kava throughout the PIC region. Consequently, prices have soared over the last two years to unprecedented levels and this has made it difficult for the exporters. The range of traditional kava products currently available in the domestic market includes:

Product	Description	Retail Prices (FJD/kg)
Waka	Dried roots	100-150
Lewena	Dried rhizome	80-120
Pounded waka	Powder	80-100
Pounded lewena	Powder	70-80
Lewena kasa	Cut pieces	60-70
White kasa	Stem	25-30
Black kasa	Stem	20-25
Civicivi	Peelings	15-20

The domestic market is almost entirely for beverage use, with the above products accounting for the bulk consumption. However, there are a number of non-traditional kava products on offer which appear to be gaining market share. These include: instant kava (powder), kava capsules, kava shots with flavour (banana, citrus etc) and pounded kava in sealed foil or vacuum packs.

Whilst exports and imports are small relative to the domestic trade, detailed information on volumes and prices is readily available through the trade statistics. Kava is an internationally traded commodity with the great majority of trade taking place within the Pacific region, including the Pacific Rim countries of USA, New Zealand and limited "suitcase trade" to Australia. International trade consists of a range of dried kava products including roots, chips, powders and instant kava. Annex 2 presents a summary of the import and export statistics for kava over the last 10 years, 2007-2016.

Exports

Over the last decade, Fiji's exports of kava averaged 218 tonnes per annum, valued at FJD6.6 million. Table 1 in Annex 2 shows that exports grew steadily from 2007 until 2012 reaching 300 tonnes per annum, but have been erratic since then due to climatic events including droughts and cyclones. However, despite fluctuating export volumes the value of kava exports has grown strongly due to price increases (see Table 2) and reached a record FJD14.2 million in 2016.

Imports

Fiji imported on average 186 tonnes of kava per annum over the last 10 years. Imports were more than 200 tonnes during five of the last 10 years. However, the last three years have seen significantly lower import volumes (see Table 3 in Annex 2) with Vanuatu being the source of almost all imports (some traded through other countries). The average value of imports was FJD3.9 million compared to exports of FJD6.6 million. The value of imports has been as high as FJD6.6 million but has been in the FJD2-4 million range during the last three years. Some of the imported kava is re-exported but the volumes are not known. This will become an important issue once the National Standard is under-pinned by legislation as the export products will require labelling to declare the origin of the ingredients.

Net Exports

Tables 5 and 6 in Annex 2 show the net volume and value of kava trade. The volume of net exports has been negative in three of the last 10 years and close to zero in another three years. The other four years have seen exports exceeding imports by 50-250 tonnes. However, the value of net exports has shown a strong up-trend, particularly in the last three years. This is partly because the per-kg price of exports exceeds those of imports. Figure 7 in Annex 2 shows that in 2016 the imports cost on average around FJD40/kg compared to exports around FJD55/kg and US exports around FJD100/kg. Domestic market prices are also well above the cost of imported kava.

Export Prices

Table 7 shows that since 2012 kava export prices have almost doubled and now average around FJD55/kg. Prices paid for imported kava are much lower at around FJD 40/kg.

Export Markets

Fiji exports kava to many markets within the Pacific basin, but the great majority goes to just three countries. Table 1 and 2 in Annex 2 show that over the last decade around 85% of kava exports by volume and 88% by value have gone to three markets: USA, Kiribati and New Zealand. Average export prices over the decade have been around FJD 30/kg. In 2016, Fiji exported 269 tonnes of kava valued at FJD14.3 million. The three major markets accounted for 84% of the volume and 80% of the value. Almost all of the remainder went to other Pacific Island Countries. The average export price was FJD55/kg with exports to the USA reaching an average of FJD97/kg. Export prices in the USA market are consistently well above prices in other destinations.

Sources of Imported Kava

Table 3 in Annex 2 shows that over the last decade Fiji has imported on average 186 tonnes of kava each year, compared to average exports of 218 tonnes. In all years other than 2010-2012, 90% of more of this came from Vanuatu. The import data for 2010-2012 show no imports from Vanuatu and with most being sourced from China. Since Vanuatu is the only kava exporter capable of supplying these volumes it is likely that the imports from China originated in Vanuatu. Table 4 shows that in 2016 Vanuatu supplied virtually all of Fiji's kava imports, with the exception of very small amounts traded through the USA and UK.

Market Assessment

The market for Fiji kava and kava products has changed markedly over the last 20 years. Whilst the domestic market predominates today, this was not always so. During the late 1990s strong demand for medicinal and pharmaceutical kava in Europe created a "kava boom" with export sales many times greater than current levels. However, the boom came to an end following claims of liver damage to a few patients in Germany due to kava toxicity. This prompted an international scare on the safety of kava products and in 2001 Germany placed a ban on kava and its products. The kava-producing countries of the Pacific and their stakeholders, including EU, sought assistance from PROINVEST[3] for funding to rebut the claim. The International Kava Executive Committee (IKEC) was instrumental in organising international meetings and took the lead role with Pacific Ambassadors in Brussels. The claim on liver toxicity was subsequently cleared by the World Health Organisation (WHO) and the ban was lifted in 2015. However, exports to EU have not resumed to any significant level.

The kava boom and the subsequent bust emphasises the importance of strict regulation and quality control for items such as kava. During the boom there were unscrupulous dealers and

[3] PROINVEST is an EU-ACP partnership programme for the promotion of investment in the ACP countries. Its implementation has been entrusted to a management unit within the Centre for the Development of Enterprise (CDE).

fly-by-night operators that sprung up resulting in inferior quality being traded. The absence of the supporting infrastructure and mechanism like standards and legislation prompt a relook at the industry in order to chart a clear way forward and avoid future events of the type experienced in Europe.

During the kava boom period the market was segmented into three parts[4]:

i. beverage for ceremonial or social drink;

ii. pharmaceuticals for prescribed drugs for treating anxiety and associated disorders; and

iii. nutraceuticals/herbal medicines for non-prescription health products.

The current kava market is very different with by far the largest amount of kava being traded with and between the PICs. Within the PICs, the great majority of kava traded is for beverages, but outside the region kava has both beverage and medicinal/pharmaceutical uses. Although small relative to the PIC region, the US market is considered to have good growth potential with a number of new kava bars offering high prices for good quality kava.

The beverage market is concentrated in the Pacific Islands and in Pacific Island(ers) communities in the three main destinations beyond the Pacific. All three Island groupings of Micronesia, Polynesia and Melanesia consume kava as a beverage. Consumption is greatest in Fiji, Vanuatu, Kiribati, Samoa and Tonga with lesser but widespread consumption in Solomon Islands, Papua New Guinea, and Ponhpei. Kava consumption in Australia, New Zealand and USA is based on their Pacific Islander populations with a small market for non-islanders and Indo-Fijians familiar with the product. However, this has changed in the USA where the establishment of Kava Bars (reported to be over 100) has increased the popularity of the beverage with non-islanders. A market scoping mission to the USA undertaken by MoA in 2015 estimated the market for Fijian kava to be around 10 tonnes per year valued around USD15 million. It was considered that this could easily grow to 20 tonnes per year with reasonable export prices. These estimates have proven to be very conservative.

The tradition of kava being consumed by Pacific Islanders as a cultural practice, to widespread consumption as a social/recreational beverage, is well documented. The beverage sector now has two sub-sectors: traditional/ceremonial; and for regular use as a social and relaxation drink. The major kavalactones sought in these market segments are[5]:

[4] Report of the International Kava Executive Committee (IKEC) and the Kava Industry Council which was compiled under the Kava Working Committee Report (2002).

[5] Adapted from the Kava Working Committee Report (2002) and further draws from discussions by IKEC with Emeritus Professor N. Kefford, University of Hawaii, which in turn drew upon a paper Kefford and Lebot produced after a conference at the University of Hawaii on new crop development in September 1997.

Segment	Major kavalactones	Effects
Ceremonial	5 = Dihydromethysticin	Intense sustained effects
	2 = dihydrokavain	Slow absorption
	1 = demethoxy-yangonin	
	4 = kavain	Palatable, pleasant
Regular beverage use	6 = methysticin	Rapid effect, fast absorption
	2 = dihydrokavain	

The pharmaceutical market for kava existed in Germany and France as a prescribed drug for many years, used in capsule form for psychological disorders, considered a natural replacement for drugs such as Valium (diazepam) that relieve the symptoms of stress and anxiety. The understanding of German scientists of the pharmacology of kava as early as the 1930s can be traced back to German colonisation of Samoa and New Guinea before World War I. The efficacy of kava extracts in treating anxiety and other associated disorders are well researched, tested and documented. The main kavalactones sought in this market segment are dihydrokavain (2), methysticin (6) and dihydromethysticin (5).

The nutraceutical market is a relatively new market segment for kava. It includes health products that assist addressing medical conditions that are not precisely defined. In the USA, anxiety and depression can only be treated with prescribed medications. In contrast, "relaxation" "well-being" and "improved concentration" are not medically-defined conditions and thus can be addressed with nutraceuticals. Kava became popular and saw a dramatic growth in this market during the 1990s before concerns about liver damage (hepatoxicity) emerged.

According to the Fiji Kava Council in 2002, herbal medicines could be considered a fourth category as the kava is used with other herbal plant material as health supplements but does not go through the process of extraction with any chemicals. The market for this product category is potentially large and needs to be developed in Asian countries, particularly China and India where 60% of the population regularly use herbal medicines

Chemotypes: As reported by the Pacific Kava Guide[6], 15 kavalactones have been isolated from kava, each having a different physiological effect. They are categorised into major and minor kavalactones. Six major kava lactones account for 96% of the fat-soluble extract from kava and are considered to be the most important active ingredients.

The efficacy of kava arises from blending of several kavalactones that results in a synergistic physiological effect. The chemotype of a kava cultivar is defined by listing, in decreasing order, the proportion of the six major kavalactones. The kavalactones are numbered[7] and used to define the kavalactone profile/chemotype of kava cultivars. Normally the first three kavalactones make up over 70% of the total kavalactone content. Consequently, traders and producers pay attention to the first three kava lactones of the chemotype.

In 2014, PHAMA carried out a varietal survey and preliminary tests at the USP IAS laboratory for the 13 varieties present in Fiji, with a single sample of each variety sent for verification

[6] SPC (2001) Pacific Kava: A producer's guide
[7] 1 = demethoxy-yangonin 2 = dihydrokavain 3 = yangonin 4 = kavain 5 = dihydromethysticin 6 = methysticin

tests at HERB Research in Germany. The preliminary results are shown in Appendix 1 of the Fiji Kava Quality Manual. Most varieties are chemotypes 426 or 462. However, work still needs to be done to confirm that the results are representative of the Fijian kava varieties.

3.6 Legal and Regulatory Framework

Currently there is no specific legal or regulatory framework for kava, although a Kava Bill has been drafted and is awaiting parliamentary review and enactment. Meanwhile, the production and marketing of kava is subject to normal commercial/ contract and food safety laws with no specific provisions for its special status as a psychoactive substance and a medicinal/ pharmaceutical raw material. The export of kava products is regulated by BAF under phytosanitary and trade protocols and MoA issues licences to kava exporters.

PHAMA supported development of a National Quality Standard for Fiji kava (along with a similar standard for Vanuatu). The standard was developed in 2016 and updated in 2017 but has no legal status until the Kava Act and regulations enter into force. The quality standard is mainly intended to be applied to kava for export and includes the following:

Product Definition

Description of kava in terms of approved (safe) varieties, parts of the plant that can be used, hygienic packaging and processing methods etc.

Types of Products

Fresh kava, dried kava and kava extract.

Quality Factors

Cold water extraction methods, and standards for contamination (filth), moisture, kavalactone chemotypes, and classification of defects.

Hygiene procedures and labelling requirements

Methods of sampling and analysis, including determination of moisture content, and the method for determination of kavalactones using the acetone colorimeter method.

Development of a regional standard for kava products has been under consideration for some time by the Codex Alimentarius Coordinating Committee for North America and the South West Pacific (CCNASWP), which includes Fiji. The purpose of the regional Codex standard is to protect the health of consumers, assure quality and promote trade. The standard is intended to cover kava products for use as a beverage when mixed with cold water and does not apply to kava beverage as such, or products used for

medicinal purposes, or as ingredients in foods, or for any other purposes. Vanuatu has also developed National Quality Standards for Kava under PHAMA support, which are similar to the Fiji standards. Codex recently approved the development of the regional standard which will harmonise national standards, including those of Fiji and other Pacific countries. Vanuatu is leading the development of the regional standards, which is expected to take at least two years. The regional standards will also warrant the establishment of systems, processes and legislation to regulate and protect the industry at national levels.

The Kava Bill, which will become the Kava Act when approved by Parliament, has the following objectives:

- To establish a council that oversees the administration and management of the kava business in Fiji
- To protect the interests of kava growers, processors, exporters and importers
- To safeguard the export of Fiji brand kava
- To provide for an operating fund for the purposed management of the council

The Act will authorise the establishment of the Fiji Kava Council to be a legal entity with five ex officio (government) members and eight other members: four representing kava growers, three representing kava exporters and one representing kava processors. The council will be chaired by the Permanent Secretary (PS) of MoA. Its functions will be to:

- Develop, promote and implement initiatives, guidelines and standards aimed at regulating the cultivation, processing, transportation, and marketing (domestic and export) of kava.
- Register and license kava growers, kava processors, kava importers and kava exporters.
- Work in cooperation with the relevant government departments, institutions and other persons interested in the industry on matters related to the industry, including assisting in the development and implementation of government policies.
- Advise or make recommendations to the minister on matters relating to the kava industry.
- Formulate, develop, approve and implement research plans for the industry.
- Endeavour to improve the capacity and efficiencies relating to the cultivation, production, processing, transportation and marketing of kava and related matters.
- Provide facilities or services for the purposes of improving the industry, including facilitating funding assistance for research and marketing, and gathering or dissemination of information relevant to the industry.
- Formulate, develop, approve and implement standards for the industry, including grading and quality standards for cultivation, production, processing and marketing of kava.

- Perform other functions as may be assigned by the ministry from time to time.

The powers of the Kava Council will be to:

- Enforce any standards made under the Act
- Register kava growers, processors, importers and exporters
- Issue import and export licences and prevent unlicensed persons from importing or exporting kava
- Perform any other power conferred by the Act or any other written law

The Act authorises the minister (of Agriculture) to make regulations, on the advice of the board (presumed to mean 'council') giving effect to the Act, including but not limited to:

- Forms, fees, charges and levies
- Rules and standards for grading, quality, labelling and marketing
- Procedures and conditions for import and export licences
- Rules and procedures for the contact of annual general meetings
- Rules and conditions for registration of growers, processors importers and exporters

In anticipation of the Kava Bill being passed into law, PHAMA has agreed to finance consultancy services to help draft the regulations to accompany the Act. It is envisaged that drafting the regulations will:

i. focus on matters with material impact on domestic and international competitiveness and productivity of kava farming, processing and trading businesses;

ii. consider the health and social impacts and how to encourage the involvement of all members of the communities;

iii. define priority areas for removing or reducing unnecessary regulatory burdens;

iv. focus on the existing public submissions on the draft Kava Bill and discuss with the MoA and Solicitor General's Office the major issues and how they are best considered;

v. consult with key stakeholders (including representation from all sectors of the community and women that are involved or may be affected by the Act and its regulations; and

vi. draft the Kava Regulations in consultation with the Solicitor General's Office and MoA.

3.7 Gender Equality and Social Inclusion

A detailed analysis of gender and social inclusion in the kava value chain is given in Annex 4. It finds that the kava value chain is male-dominated at all levels. A very small portion of women participate as individual kava farmers while the majority participate at the household level as supportive actors. There are also significant barriers to the participation of disadvantaged or vulnerable households/individuals and youth, mainly related to access to land and financial services. However, this is an issue not confined to kava-farming. Kava is no more or less socially inclusive than other commercial farming activities in rural areas of Fiji.

Only 2% of registered kava growers are women. This is not inconsistent with official statistics for women's involvement in agriculture generally. The 2009 census reported the percentage of women farmers in the agriculture sector is 5%. However, these figures greatly under-estimate the importance of women in the kava value chain. Women in kava-farming households participate in kava growing in many ways that are not recognised in official statistics – see case study in Annex 7, "Women with a Vision".

Most kava production is undertaken at the household level with work undertaken by all family members, although the male head of the household is usually registered as the grower. Women are heavily engaged in weeding, pruning and general maintenance and upkeep of kava plots right up to the harvest stage, and they generally have limited decision-making powers about production and marketing. The lack of participation of women at the money and product exchange level was considered to deny women the opportunity to get first-hand information on the income earned and to be as involved in subsequent decision making relating to that income. On the other hand, women have also been recorded as the backbone of family-based kava production and business due to their close involvement in planning and financial management. The possible causes for these differences were not clear from the interviews held for this analysis but warrant further investigation.

Women generally lack access to information about kava and are often required to follow their male counterparts in accessing markets, customers and buyers, track price changes, and adopt new skills and knowledge. Women are often overlooked in training as they are assumed as not fully participating in kava production. Training is often done in urban centres where women are not able to attend due to their concerns about their family security and important tasks like sending their children to school daily. There is a need to empower women to take a more prominent role through training, access to land and financial services, to allow them to undertake kava-growing on their own account in order to increase incomes and improve family welfare.

Women are often left to acquire and benefit from information shared through casual sources like informal discussions with relatives, other farmers' wives, women relatives and friends. This is the same as the situation faced by women farmers in Fiji generally. The limited visits and access of extension service officers in the more remote areas to kava-growing areas makes kava growers, and women growers in particular, dependent on informal information sources.

However, as shown in the case studies in Annex 7, because of its profitability, there are a number of interesting initiatives to connect kava growers to sources of information, inputs and markets – see Annex 7 "R&D Island Style" and "Girmit Journey – From Copra to Yaqona".

Women usually complete their household work first, like cooking and child care, before they can actively participate or help in the kava farm, while their husbands would be working in the kava farm for most part of the day.

Interviews conducted with women (farmers and members of farming households) found that they had a range of roles on a daily basis - as housewife, mother, member and contributor to their community, and farmer or farm hand. Women are expected to distribute their time to the first three of these roles before helping on the farm.

Women interviewed confirmed waking up as early as 4.30am to do their tasks as housewives to prepare hot tea or breakfast for their husbands who would go out early to the farm. They would then carry on to their role as mothers to prepare and send off their children to school. After the children leave for school, they clean the house and cook before they could do some work or help in the farm. Conducting duties expected of a woman as a housewife and mother takes up most time in the morning resulting in less time available for farm activities compared to men.

Individual woman farmers interviewed, usually pay for hired labour to work on their farms allowing them to do their domestic duties. In these circumstances, women play a supervisory role in checking out the work done by the hired labourers

At household level, women tend to have limited access to the income earned. While women may have a large role in planning the use of income, they are often not rewarded financially for their contribution and have to seek approval from their husbands when they need to use some money earned from their household kava income. To address their lack of access and control over collective family income from kava, some women in the rural areas have been planting kava on a small scale, allowing them to have greater control over that income.

Women also control the domestic kava market at village and community level where kava is sold in small quantities for home consumption. But there is very limited involvement of women at higher levels in the value chain as traders, exporters and retailers.

A lot of young people are attracted to kava-growing because of the high prices. They are doing this as part of youth groups or as individuals, (See case studies in Annex 7, "Youth With a Vision"). Some are encouraged by their parents as school work is not really working out for them. In the 2009 census, the average age of farmers had increased to 56 years and it was difficult to attract young entrants into the industry. The high profitability of kava has the potential to mitigate the aging demographic profile of Fiji's farmers through increased youth participation. As an example, a young man on Taveuni who had just left school paid cash for a twin cab Toyota from the proceeds of his kava sales. These are the kinds of experiences that will attract youth into agriculture – to engage in farming as a profitable business.

3.8 Value Chain Analysis

The value chain analysis in Annex 5 presents estimates of the revenues earned and costs incurred by value-chain actors at four levels: kava growers, kava traders, retail vendors and exporters. These estimates are based on a combination of documentary sources and information gathered during field work consultations with stakeholders in July and August 2017.

Kava Growers

Annex 5, Table 1 shows the estimated costs and revenues from kava production and marketing at current (mid 2017) costs and prices. The analysis is based on a semi-intensive kava production model with kava planted at a density of 6,500 plants per hectare and harvested progressively in years 3, 4, and 5 with a total yield of 5.1 tonnes/ha of dried kava. The farmgate price is assumed to be FJD 40/kg. All other assumptions used in the analysis are shown in Table 1. This is regarded as a commercial smallholder model of production, recognising that significant amounts of kava are still produced in scattered small-plot mixed plantations with lower planting densities. However, the costs and revenues per kava plant for small-plot mixed plantations are not considered to be significantly different than for the semi-intensive production model.

As expected, the analysis shows that at current prices growing kava is a very profitable activity. Over a five-year cropping cycle, one hectare of kava can generate gross income of over FJD 200,000 or FJD 40,000 per annum on average. Since cash costs are quite limited, this delivers an average gross margin per hectare per annum of around FJD 37,000 and a gross margin per labour day of FJD 425. These returns are far in excess of any other crop, a finding which is consistent with anecdotal evidence and reports on kava production in other PICs. It also confirms the findings of McGregor (1999) that intensive kava production generates "huge rates of return to labour and land that cannot remotely be managed by any other crop".

Of course, not all kava growers generate returns of this magnitude all of the time. Many growers plant a few hundred kava plants in their food gardens to generate modest amounts of cash by harvesting a few plants at a time when money is needed. There is minimal husbandry in terms of pruning or weed control and the crop is at risk of damage or destruction from cyclones or droughts. Even so kava is a vital element of the cash economy over large parts of rural Fiji and any measures to improve productivity and efficiency in the value chain have large potential benefits. The analysis also shows that even if prices recede from their current record levels, kava will remain a very profitable smallholder crop. The fact that kava can be harvested at any time after about three years, and quickly sold for cash, means that production can be adjusted to meet immediate cash needs and/or social obligations. However, this also means that production can be erratic and difficult to predict.

Kava Traders/Middlemen

Whilst farmers consume or sell locally some of the kava they produce, the majority is sold to traders and middlemen who travel to rural areas to purchase dried/bagged kava. Table 2 in Annex 5 shows the estimated costs and revenues for a trader purchasing 500kg of dried kava per week. After deducting operating costs for a vehicle, bags, labour and an allowance for shrinkage and wastage, a trader could be expected to earn a gross margin of around FJD84,000 per annum or around FJD4.20 per kg of kava purchased, equivalent to about 10% of the price paid to the farmer.

Kava Vendors

Kava vendors in the municipal markets and speciality kava shops in village and urban areas sell kava to consumers in dried or powdered forms. This accounts for over 90% of all kava utilisation, with the remainder being exported. Vendors currently purchase raw kava from traders at around FJD50/kg and sell it for around FJD80/kg after pounding and bagging. Higher quality lines such as pure waka (roots) sell for over FJD100/kg but the majority of sales are mixes of powdered waka and lewena. Retail margins are difficult to estimate because they fluctuate with buying and selling prices. The estimates presented in Annex 5, Table 3 show that the average retail gross margin at current prices is probably around FJD13-14 per kg.

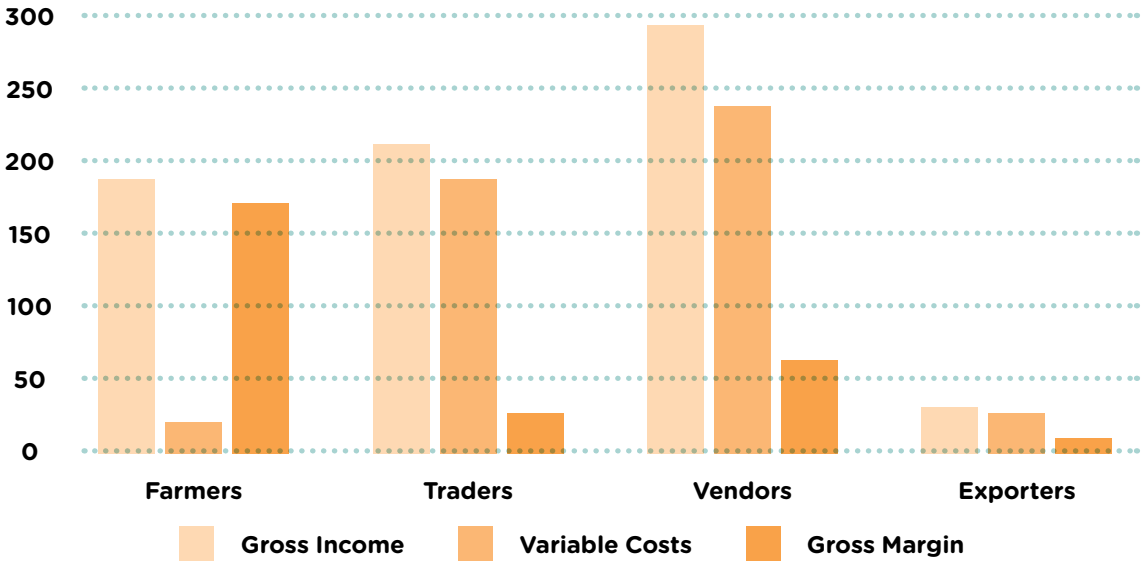
Exporters

Exports currently account for only 8% of kava utilisation in Fiji. Table 4 in Annex 5 shows the estimated cost and revenues for exporting powdered waka to a high-value market such as the USA where it generates export revenue of around FJD100/kg, a little more than can be obtained by selling locally. However, exporters incur a number of costs and risks that local retailers do not, including packaging, customs and biosecurity charges and air freight. This explains why some operators who engage in both domestic retailing and exporting give priority to the former. At present prices, export margins are thin, estimated to be around FJD7-8 per kg.

Summary of Value Chain Analysis

Figure 2 below and Table 5 in Annex 5 present a summary of the value chain analysis. It shows that the total gross income from kava sales amounts to around FJD320 million of which about 92% comes from domestic sales and 8% from exports. The largest amount of value addition occurs at the farm level where the approximately 10,400 kava growers generate a total gross margin of around FJD167 million, or FJD16,000 per grower per annum. Much smaller margins are earned by the traders, retailers and exporters, although these are far fewer in number.

Figure 2: Summary of Fiji Kava Value Chain Analysis



4

Conclusions and Recommendations

4.1 General Conclusions

Fiji, along with the other major kava-producing countries, is experiencing a second kava boom. However, this one is distinctly different from the boom of the late 1990s which was driven by exports of kava to Europe for medicinal and pharmaceutical use. The current boom is fuelled largely by domestic and regional (PIC) demand for kava as a ceremonial and recreational beverage with a small but important element of exports beyond the PICs, also mainly for beverage use, but with medicinal/pharmaceutical demand also growing.

Fiji is the second largest producer and consumer of kava, next to Vanuatu. However, per capita consumption in Fiji (around 4kg/capita dry weight) is much less than in Vanuatu (around 14 kg/capita). Fiji kava has the advantage of being entirely of noble varieties which avoids health concerns in the domestic market, and gives importers greater assurance about the quality of Fijian kava.

Analysis of the kava value chain, including its gender equality and social inclusion aspects, confirms that kava is one of Fiji's most important agricultural commodities, which is generating substantial social and economic benefits for rural communities, especially on the outer islands, and has the potential for further development. Although the domestic market currently generates most of the revenue, and is much more easily accessible, kava exports still represent an important source of revenue for Fiji relative to other agricultural export commodities (e.g. sugar and taro) which are struggling. The export sub-sector, therefore, remains important to the future of the kava industry.

PHAMA and the Fiji MAWG have recognised the potential for increased exports in selecting kava as one of its priority commodities. This is consistent with PHAMA's mandate to support export market access. The support provided by PHAMA through the survey of kava production, the kava quality manual, support for the Kava Task Force, the kava standards, and proposed development of regulations to accompany the Kava Act, all represent substantial steps in the right direction. These measures recognise that as a psychoactive substance that is also used for medicinal and pharmaceutical purposes, kava is not a standard export commodity and requires special interventions as the foundation for a sustainable and profitable export industry.

The measures supported by PHAMA have contributed to improving export performance in value terms during the last five years, although export volumes have been erratic due to climatic events (drought and cyclones). Domestic demand and prices are also at record levels, which is making it difficult for exporters to operate in the regional and USA markets, and most report that they are struggling to fill their export orders due to domestic supply and price factors. This indicates that increased, stable and sustainable production of kava is a high priority. Whilst this would see domestic prices ease, kava production would remain very attractive for growers, and exporters would be able to absorb the increased supplies.

Against a background of strong domestic and international demand, the Kava Act and its accompanying regulations (still to be drafted) create major new opportunities for the sector. The Act will enable a much stronger regulatory regime which is needed to safeguard and stimulate development

of the export sub-sector, and to assure the quality and safety of kava in both domestic and export markets. PHAMA has a potentially valuable role to play in realising these outcomes.

The challenge is the very different legal and regulatory regimes required in the domestic and export marketing pathways. Nobody questions the need for strict quality control and food safety standards in the export sub-sector to avoid the repetition of events which brought the last kava boom to an end. But the domestic market is far less discriminating in this regard, and it would be unwise to over-regulate the domestic marketing pathways that work reasonably well and generate over 90% of industry revenue. This suggests that Fiji needs to further differentiate the export and domestic marketing pathways to ensure that the export pathway has the required level of regulation and control, without disrupting the domestic pathway.

4.2 Recommendations

Fiji's kava industry has already laid many of the foundations for a successful and sustainable future based on a combination of domestic and export markets, with the domestic sub-sector likely to remain dominant. By mid-2018 the necessary legal and regulatory instruments should be in place. However, the industry has never had a formal strategic framework in place. It is, therefore, recommended that the Kava Task Force (and/or the Fiji Kava Council to be established under the Act) should take responsibility for the development of a Kava Strategic Plan, based on the priorities identified in this value chain analysis[8]. The plan would underpin the ongoing success of the kava Industry based on professional management, regulation, sustainable production, consistent supply of raw materials and secure global market access. The key elements of such a plan may include some or all of the following:

- Creation of a revenue-raising mechanism, independent of the Government and donors, to help finance kava industry development. This could take the form of an export levy, similar to that applied in Vanuatu, but paid into a fund controlled by the Kava Council and used exclusively to support development of the kava industry. The Kava Bill appears to authorise revenue raising along these lines, but a levy mechanism would need to have the support of the exporters who would be required to pay it.

- Measures to address gender equality and social inclusion issues, giving due recognition and reward for the role that women play in the kava value chain, and to facilitate greater participation of both women and youth in kava production on their own account for their own financial benefit. Measures to increase the participation of women in higher level value-adding activities are also recommended.

- Measures to address environmental and sustainability concerns in kava growing due to cultivation on steep hillsides with associated risks of soil fertility decline and erosion. A range of GAPs needs to be formulated and demonstrated for sustainable kava growing on steeply sloping land including mulching, intercropping, terracing etc.

[8] It is debatable whether the Kava Act should come before or after a strategic plan, but the agenda for enacting the Kava Bill is controlled by Parliament.

- Other interventions to boost kava yields, focussing on supply of high-quality planting materials through appropriate tissue culture and nursery propagation methods using disease-free material of the preferred varieties. The nurseries should be operated by the private sector as stand-alone business ventures, with technical backstopping from MoA. This should be supported by a systematic program of varietal evaluation to assess the yield and chemotypes of the 13 different varieties under different growing conditions.

- Improvements in rural infrastructure and equipment including access roads, vehicles, and washing, grading, transportation and packing and storage facilities. This would lower the costs of handling and transporting kava and reduce some of the qualitative and quantitative losses currently incurred in the marketing pathways.

- Improved access to financial services and financial literacy training by value-chain actors, especially farmers, middlemen, nursery operators and vendors. This would help to mobilise the capital required for expansion, reduce transaction costs in the value chain and help to improve household financial management.

- Establishment of systems for certified organic kava in cases where price premiums are available and sufficient to cover the costs associated with organic certification.

- Establishment of laboratory facilities for testing and certifying kava according to its kavalactone content.

- Establishment of a quality assurance system covering all parts of the export marketing pathway and aligned to the forthcoming Codex Alimentarius regional kava standard. The Kava Act will enable the creation of a system involving inspection/ monitoring of field activities and certification by MoA officers and BAF. The key elements of such a system would include:

  - Inspectors and/or extension officers should check drying facilities for sanitation and drying/handling methods to keep the products from being contaminated and ensure that the product is only sun-dried and not machine or smoke-dried.

  - Checking storage, packing and labelling facilities to avoid situations where kava is stored in damp and unhealthy warehouses where rodents, cockroaches etc. have been prevalent.

  - Development of a protocol for an official kava quality brand for export kava to be known as “quality assured Fiji kava” or similar. Use of the brand would need to be rigorously controlled involving separation of domestic from export product all along the marketing pathway, observance of a code of conduct by all value-chain actors and the adoption of a formal descriptive language for kava products. This would be best achieved through contract farming or out-grower schemes involving fully integrated supply chain arrangements between kava growers and exporters. Such arrangements are necessary to separate export marketing pathways from the domestic market and to enable the use of a quality brand.

- Issuing of Export Licences to eliminate disreputable traders from exporting kava without having gone through the inspection and certification procedures. Licences would only be issued to businesses registered in Fiji[9].

- Identifying one or two speciality kava provinces among the four major supplying provinces (all on outer islands) as focal areas for production of kava for export under a quality branding protocol.

- Measures to control the theft of kava through registration of kava growers (and de-registration for malpractice) and empowering kava wardens to assist village headmen in monitoring this issue.

- Collection of better statistical information to aid planning and monitoring, particularly in relation to the age profile and yield trajectory of kava plantations and the qualitative and quantitative losses incurred in the various marketing pathways.

- Better recognition and closer engagement of middlemen in industry fora. These handle almost all of the kava traded domestically and some of the export kava, and it is important that they are part of the strategic planning process and the development of quality management systems. One specific issue to be addressed here is the role of AMA in kava trading which is seen by many private sector traders, processors and exporters as a government-supported/ subsidised competitor.

- Identification of priority export markets. Whilst this is largely the domain of individual exporters, any general promotion activity needs to be focused where they will have the greatest impact. The USA is currently seen as having the best prospects for growth at the high end of the market. So far there have been few benefits from lifting of the EU ban and it is uncertain whether this market will ever recover its former importance. Non-traditional markets such as China and India may open up, but are insignificant at present.

- Examination of opportunities for value addition. The great majority demand for kava is for use as a ceremonial and recreational beverage. As such, the best opportunity for value addition is rigorous quality assurance and product specification for raw and semi-processed (e.g. powdered) kava. However, during the 1990s, when there was strong demand for kava for pharmaceutical and medicinal uses, the potential for producing kavalactone concentrates was assessed. This may still merit consideration[10].

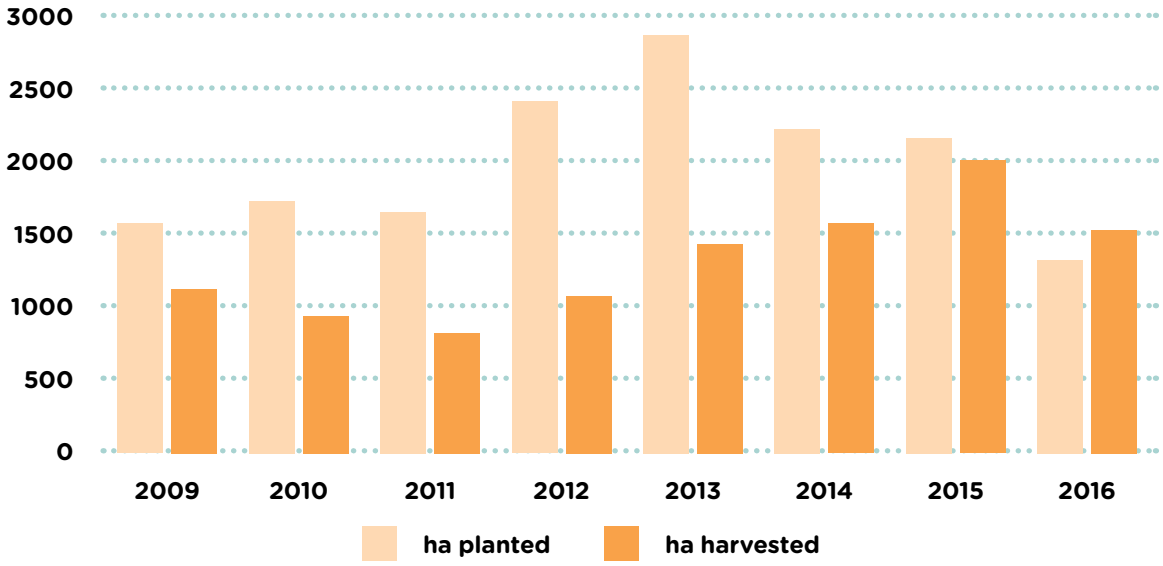
[9] Foreign-owned businesses would be subject to the provision of the Fiji Foreign Investment Act (1999) which lists kava as a "reserved activity". Foreign-owned businesses require special approval to engage in such activities.

[10] It is possible to produce a 30% kavalactone powder (three parts of kavalactones mixed with seven parts of an inert powder). The use of organic solvents (ethanol or acetone) can extract much more kavalactone than cold water and there is potential to develop products of this type for pharmaceutical and medicinal use.

ANNEX 1

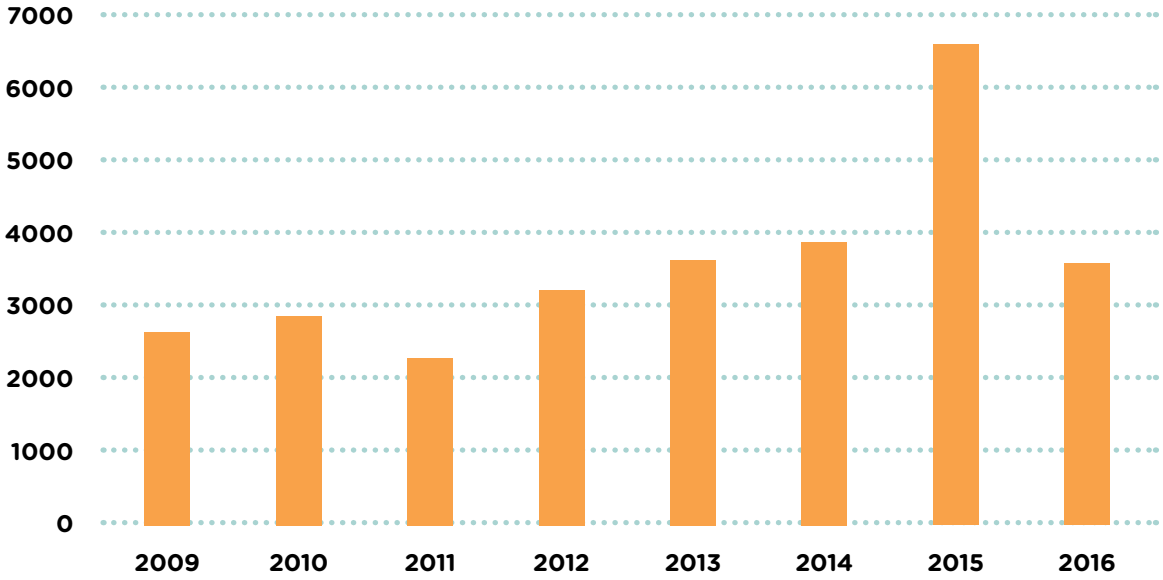
Annex 1
Kava Production and Price

Figure 1: Area of Kava Planted and Harvested 2009-2016 (hectares)



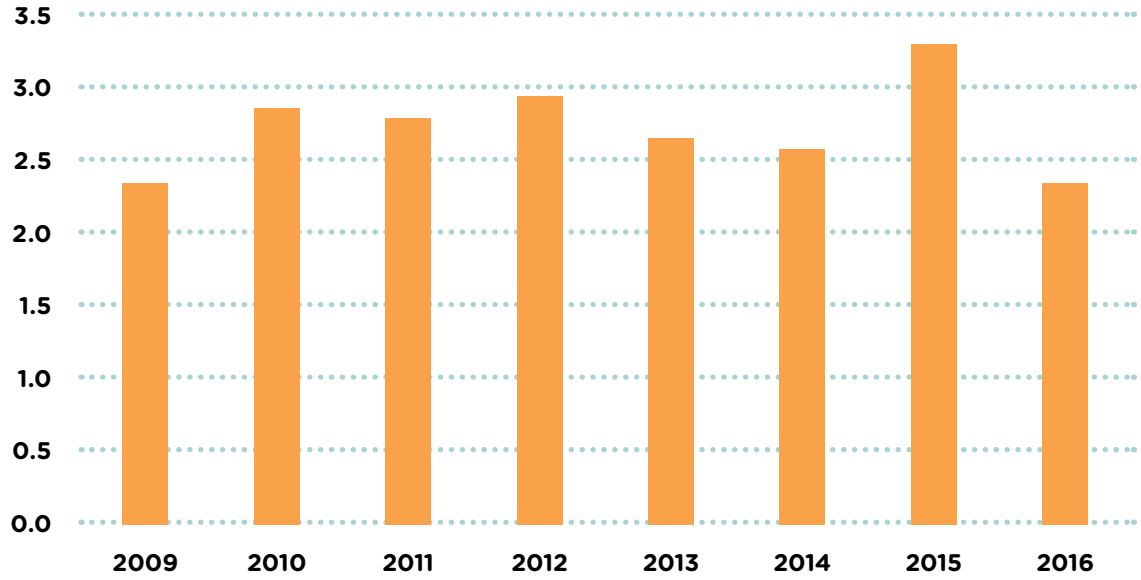
The area planted peaked in 2013 before declining during a series of dry years. The 2016 figure is provisional and could reflect the impact of Cyclone Winston.

Figure 2: Tonnes of Kava Produced 2009-2016 (dry weight)



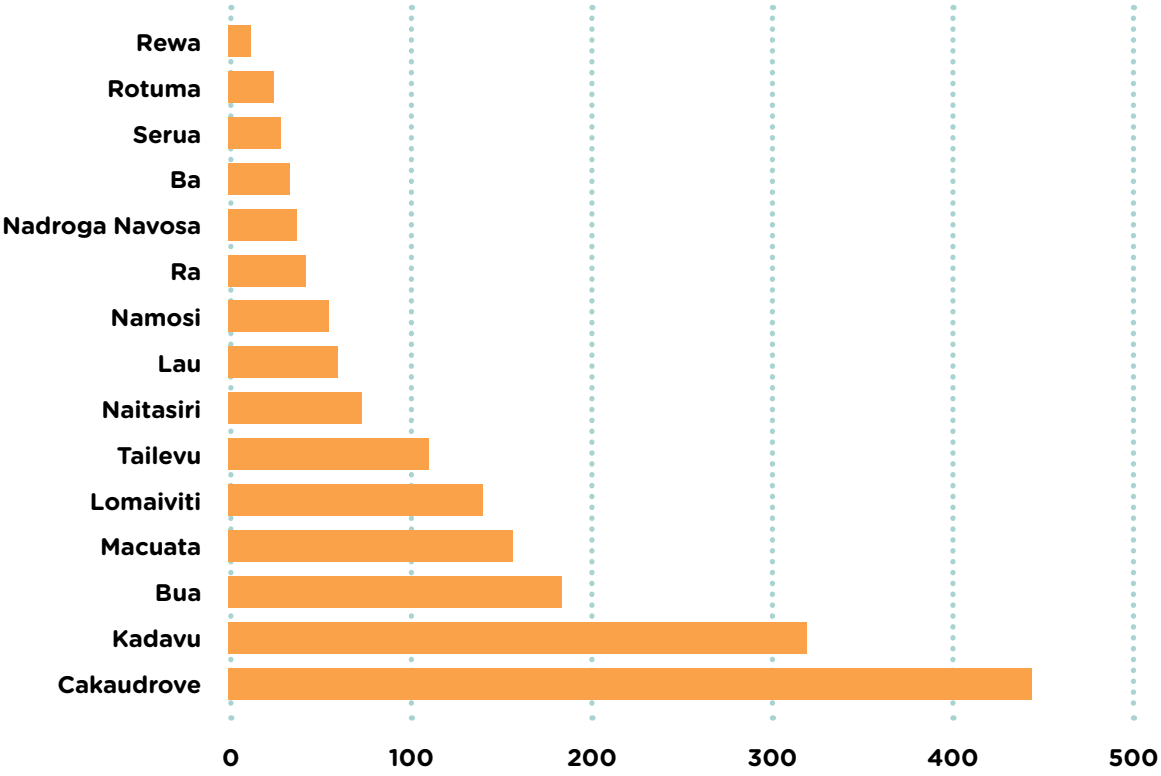
Kava production reached over 6,000 tonnes in 2015. It drastically fell in 2016 due to the effect of Cyclone Winston.

Figure 3: Average Kava Yield 2009-2016 (tonnes per hectare harvested)



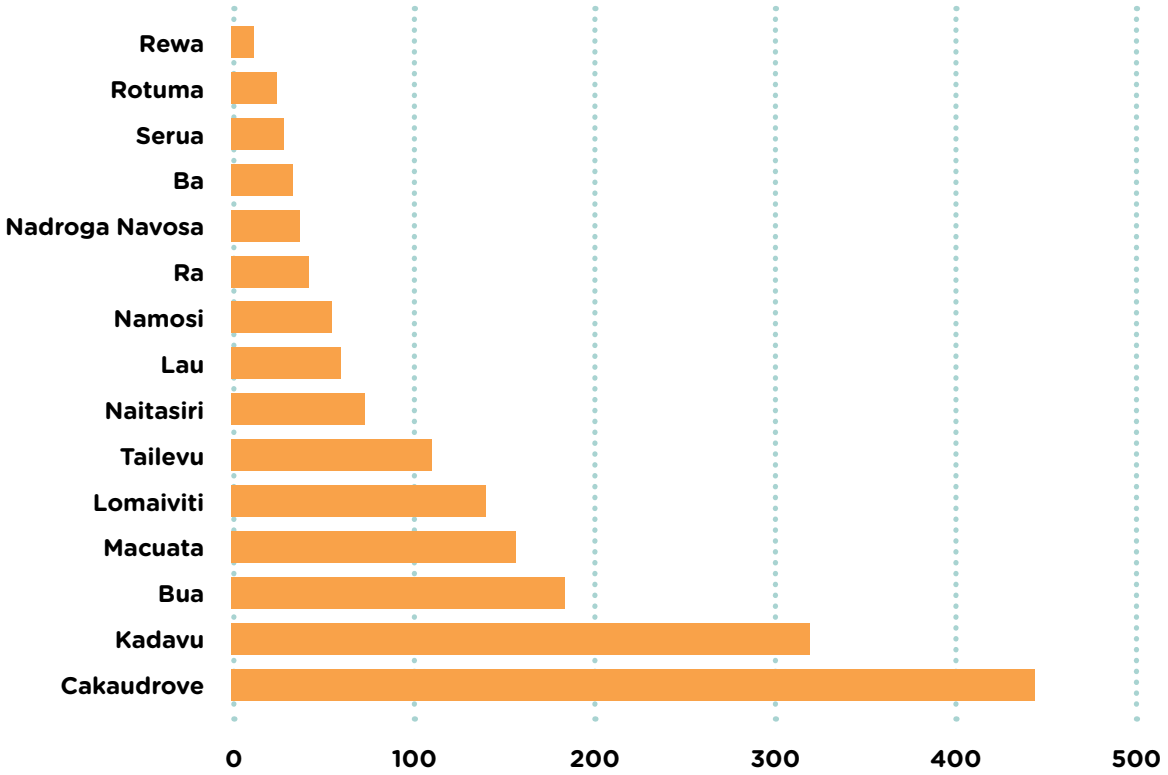
Crop yields are fairly stable between about 2.4 and 3.0 tonnes per hectare.

Figure 4: Average Area of Kava Planted by Province, 2009-2016 (hectares)



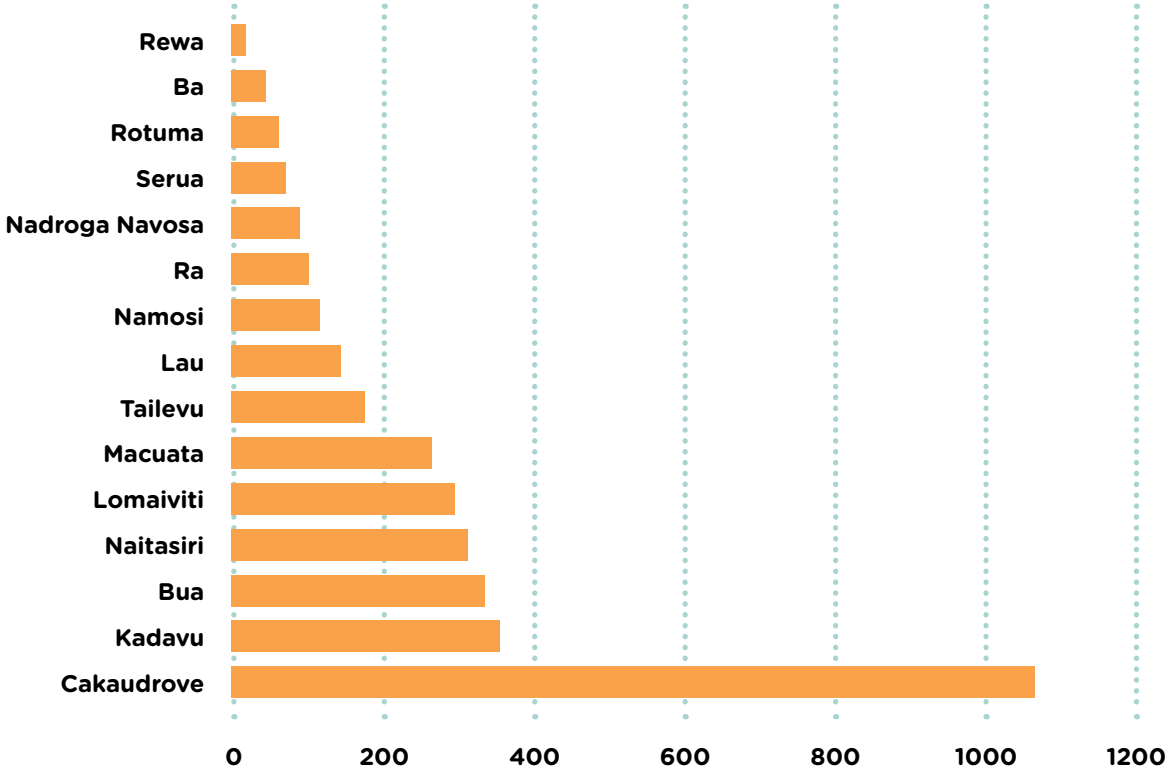
The five major provinces in terms of kava plantings are Cakaudrove, Kadavu, Bua, Macuata and Lomaiviti

Figure 5: Average Area of Kava Harvested by Province, 2009-2016 (hectares)



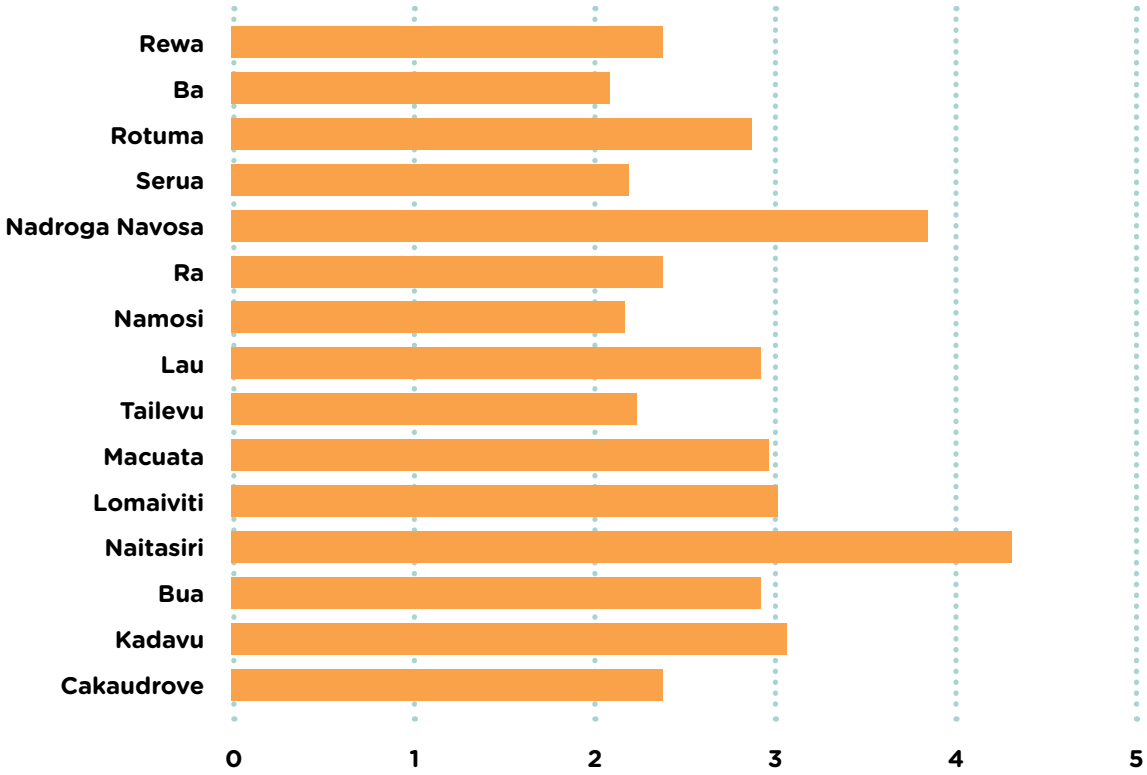
The five major provinces in terms of kava harvested are Cakaudrove, Kadavu, Bua, Lomaiviti and Macuata.

Figure 6: Average Amount of Kava Produced by Province, 2009-2016 (tonnes)



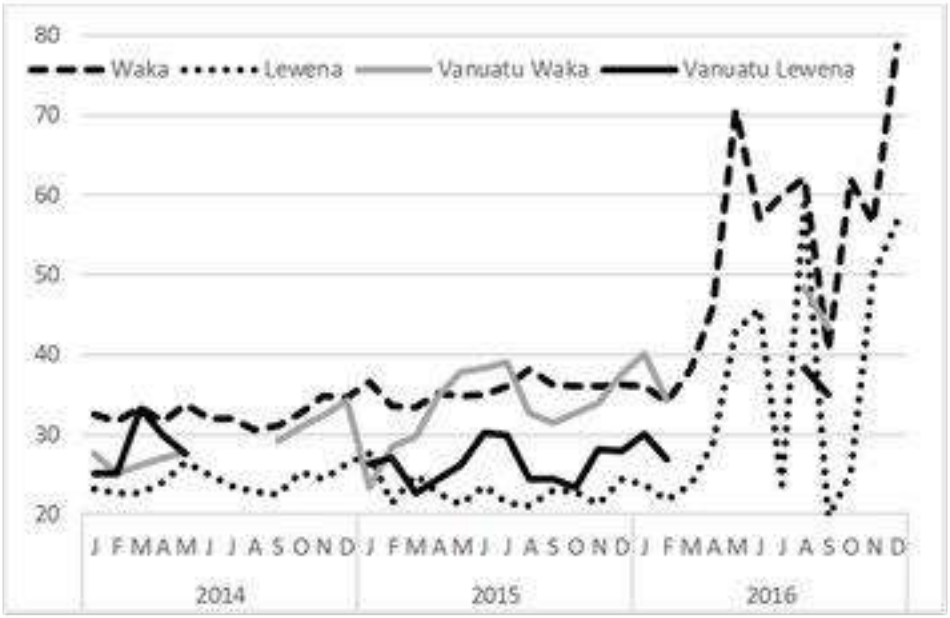
The great majority of kava production comes from the six principal kava provinces.

Figure 7: Average Kava Yield per ha Harvested by Province, 2009-2016 (tonnes)



Most kava crops yield between two and three tonnes (dry weight) per hectare harvested.

Figure 8: Local Retail Market Prices for Kava, 2014-2016 (FJD/kg dry weight)

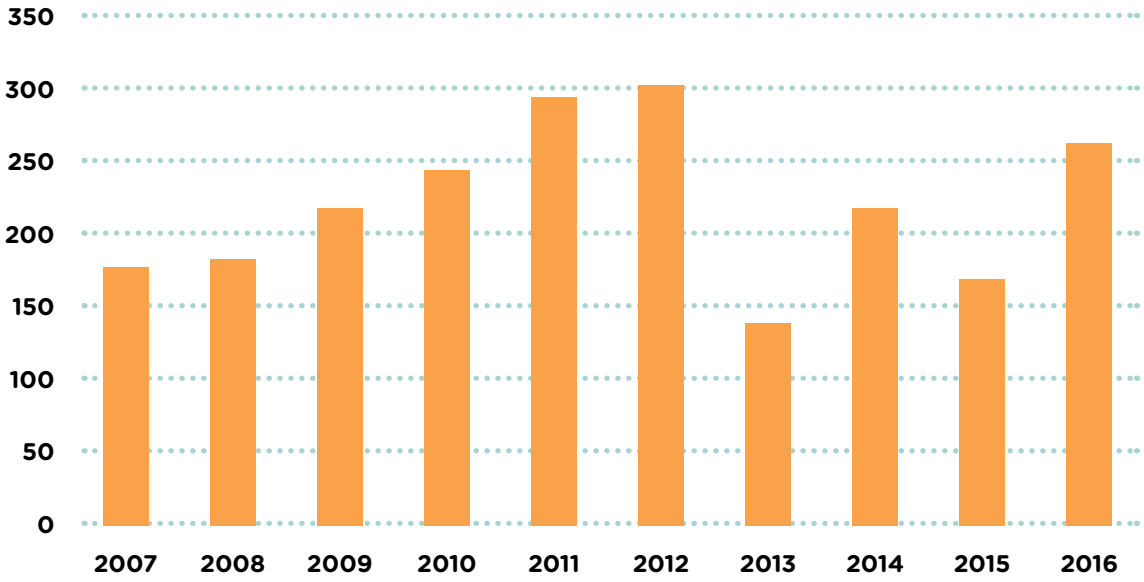


Local market prices have soared since cyclone Winston disrupted supplies in early 2016.

ANNEX 2

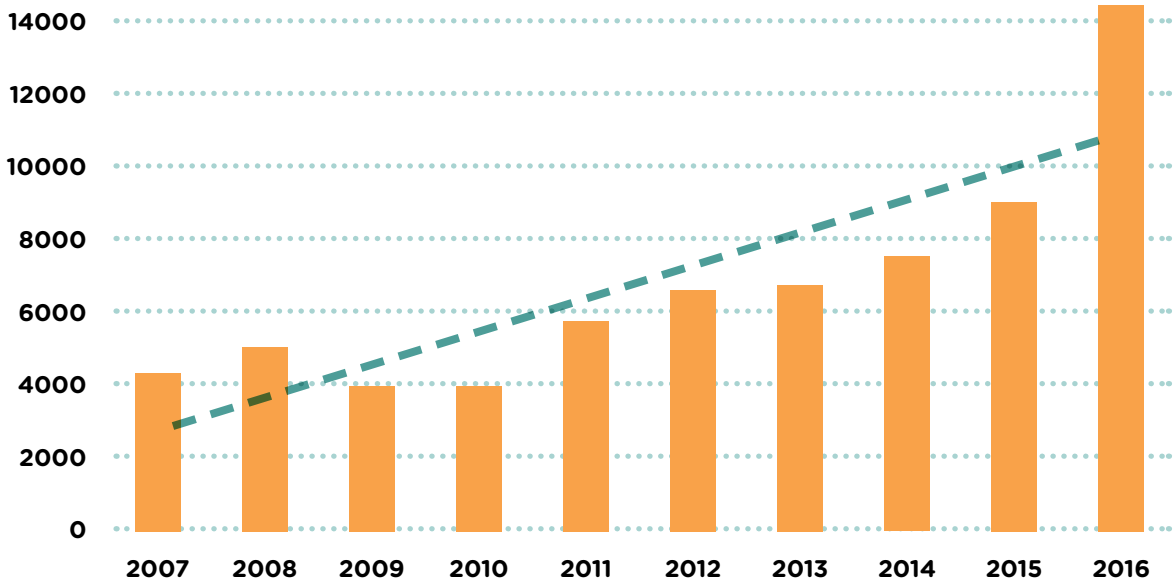
Annex 2
International Trade in Kava Products

Figure 1: Exports of Kava 2007-2016 (tonnes)



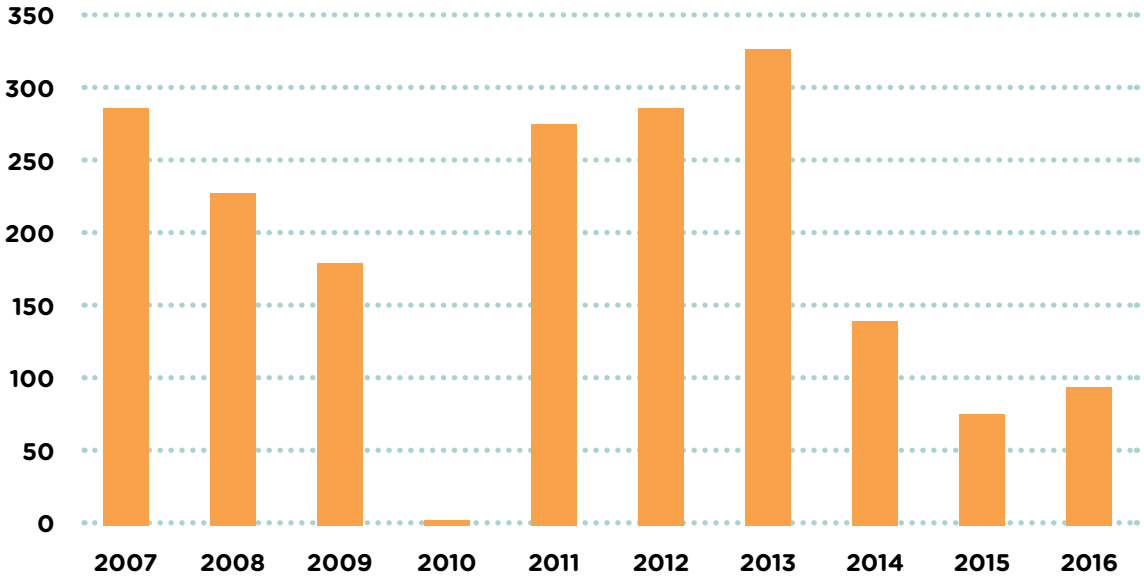
Exports grew steadily from 2007 until 2012 reaching 300 tonnes per annum, but have been erratic since then due to extreme climatic events including droughts and cyclones.

Figure 2: Value of Kava Exports 2007-2016 (FJD'000)



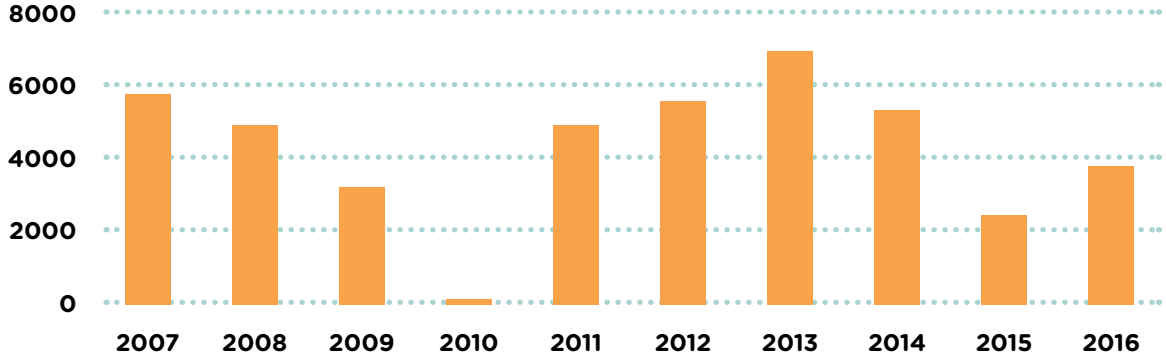
Despite fluctuating export volumes the value of kava exports has grown strongly due to price increases.

Figure 3: Imports of Kava 2007-2016 (tonnes)



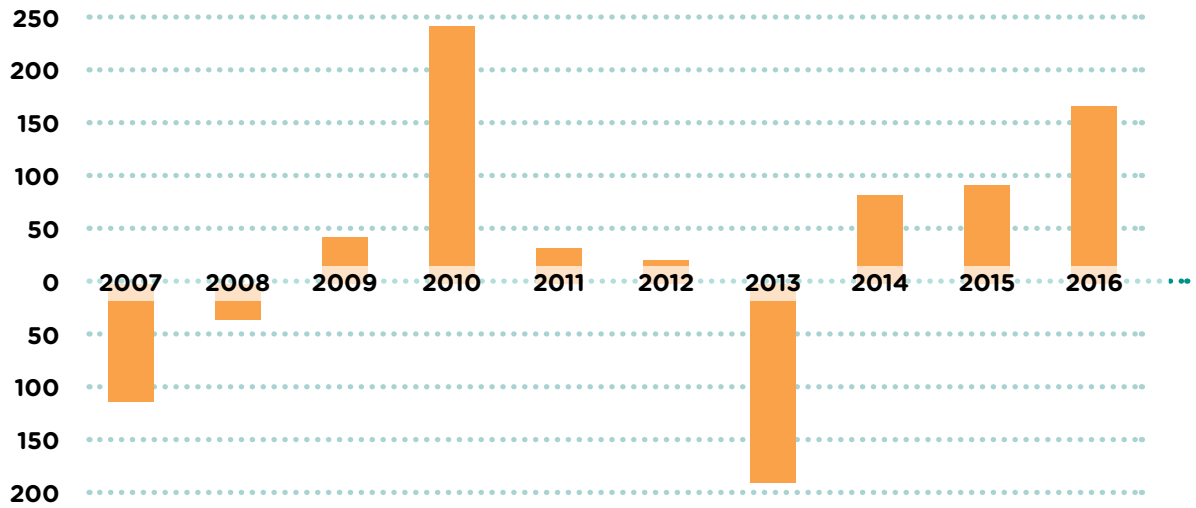
Fiji has imported more than 200 tonnes of kava in five of the last ten years. However, the last three years has seen significantly lower import volumes.

Figure 4: Value of Kava imports 2007-2016 (FJD'000)



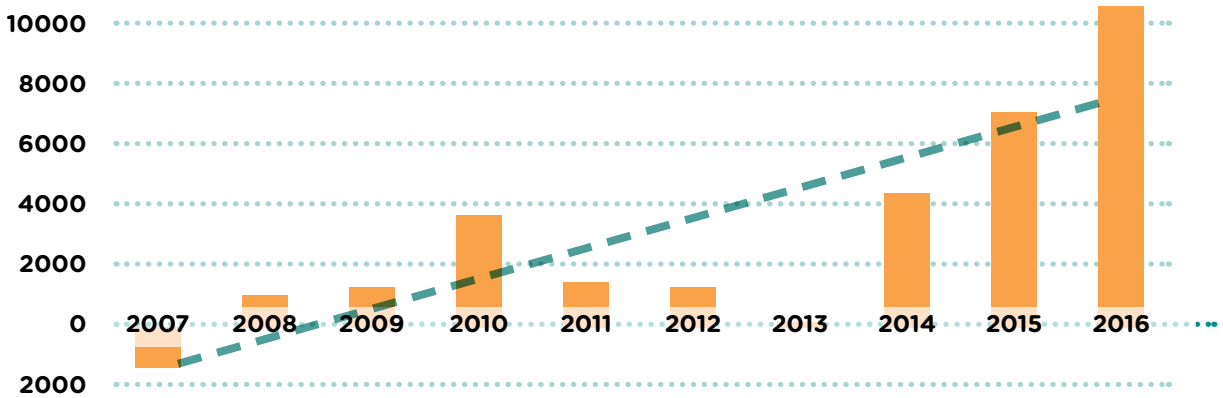
Despite fluctuating export volumes the value of kava exports has grown strongly due to price increases.

Figure 5: Net Exports of Kava 2007-2016 (tonnes)



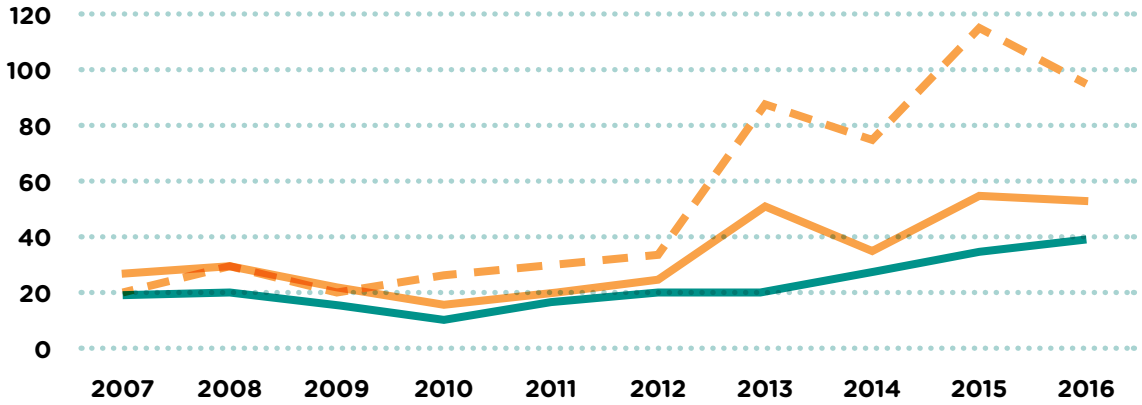
The volume of net exports has been negative in three of the last 10 years and close to zero in another three years. The other four years have seen exports exceeding imports by 50-250 tonnes.

Figure 6: Net Exports of Kava 2007-2016 (FJD'000)



The value of net exports has shown a strong up-trend, particularly in the last three years. This is partly because the per kg price of exports exceeds those of imports.

Figure 7: Average Value of Kava Imports and Exports, 2007-2017 (FJD/kg)



Since 2012 kava export prices have almost doubled and now average around FJD55/kg.

Prices paid for imported kava are much lower at around FJD40/kg. In 2013 prices for exports to USA have soared and remain well above prices in other destinations.

Table 1: Destination of Kava Exports, Annual Average 2007-2016

Destination	Volume Tonnes	Value FJD'000	Value FJD/kg	Percent of	
				Tonnes	FJD'000
United States	78	3,165	40	36.0	47.7
Kiribati	44	1,570	36	20.2	23.7
New Zealand	64	1,086	17	29.2	16.4
Nauru	3	191	72	1.2	2.9
Wallis and Futuna	10	170	18	4.4	2.6
Christmas Island	2	71	39	0.8	1.1
Hawaii	1	66	45	0.7	1.0
Australia	3	62	22	1.3	0.9
Marshall Islands	1	58	68	0.4	0.9
Tuvalu	6	41	7	2.6	0.6
Other Pacific Islands	4	87	21	1.9	1.3
Other Countries	3	65	22	1.3	1.0
Total	**218**	**6,633**	**30**	**100.0**	**100.0**

Over the last decade around 85% of kava exports by volume and 88% by value have gone to three markets: USA, Kiribati and New Zealand. Average export prices over the decade have been around FJD30/kg.

Table 2: Destination of Kava Exports, 2016

Destination	Volume Tonnes	Value FJD'000	Value FJD/kg	Percent of	
				Tonnes	FJD'000
United States	94	9,044	97	36.2	63.4
New Zealand	751	2,181	29	29.1	15.3
Kiribati	49	1,030	21	18.8	7.2
Marshall Islands	6	421	73	2.2	3.0
Nauru	6	354	60	2.3	2.5
Hawaii	7	330	50	2.5	2.3
Wallis and Futuna	8	276	33	3.2	1.9
Tuvalu	2	153	89	0.7	1.1
Samoa	5	126	24	2.0	0.9
Tonga	3	971	32	1.2	0.7
Other Pacific Islands	1	341	47	0.3	0.2
Other Countries	4	212	55	1.5	1.5
Total	**259**	**14,257**	**55**	**100.0**	**100.0**

In 2016 Fiji exported 269 tonnes of kava valued at FJD14.3 million. The three major markets accounted for 84% of the volume and 80% of the value. Almost all of the remainder went to other Pacific Island countries. The average export price was FJD55/kg with exports to the USA reaching an average of FJD97/kg.

Table 3: Source of Kava Imports, Annual Average 2007-2016

Source	Volume Tonnes	Value FJD'000	Value FJD/kg	Percent of	
				Tonnes	FJD'000
Vanuatu	122.0	2,817.9	23.1	65.5	71.3
China	51.9	910.3	17.5	27.9	23.0
Papua New Guinea	8.0	102.2	12.7	4.3	2.6
New Zealand	2.5	91.7	37.4	1.3	2.3
Tonga	0.9	18.0	20.8	0.5	0.5
Australia	0.5	7.4	14.9	0.3	0.2
United States	0.1	1.4	23.2	0.0	0.0
Canada	0.3	1.3	3.9	0.2	0.0
Germany	0.0	0.4	11.7	0.0	0.0
Hawaii	0.0	0.2		0.0	0.0
United Kingdom	0.0	0.1		0.0	0.0
Solomon Islands	0.0	0.0		0.0	0.0
Total	**186.2**	**3,951.0**	**21.2**	**100.0**	**100.0**

Over the last decade Fiji has imported on average 186 tonnes of kava, compared to exports of 218 tonnes. In all years other than 2010-2012, 90% of more of this came from Vanuatu. The import data for 2010-2012 show no imports from Vanuatu and with most being sourced from China. Since Vanuatu is the only kava exporter capable of supplying these volumes it is likely that the imports from China originated in Vanuatu.

Table 4: Source of Kava Imports, 2016

Source	Volume Tonnes	Value FJD'000	Value FJD/kg	Percent of	
				Tonnes	FJD'000
Vanuatu	94.2	3,693.5	39.2	100.0	99.9
United States	0.0	4.2		0.0	0.1
United Kingdom	0.0	1.2		0.0	0.0
Total	**94.3**	**3,698.9**	**39.2**	**100.0**	**100.0**

In 2016 Vanuatu supplied virtually all of Fiji's kava imports, with the exception of very small amounts traded through the USA and UK.

ANNEX 3

Annex 3
Contribution of Kava Value Chain Actors

Actor	Contribution	Costs Incurred	Rewards	Risks
Kava nursery operators	Produce kava planting material and sell to farmers	Cost of certified seed, potting mix, nursery operator's time	The selling price of seedlings to the farmer	Moderate: Natural disasters such as floods or cyclones
Kava farmers	Produce kava varieties required by the market Farmers contribute land, labour and expertise, etc. Harvest, dry, store and sell at farm gate or to middlemen.	Cost of land preparation, fertiliser, seed material, family labour	The farmgate selling price of kava, fresh or dried	High: Natural disasters, weather, disease, theft, etc.
Traders/ middlemen	Buy fresh or dried kava from farmers. Transport, store, sort, grade package and sell to end user or exporter	Cost of kava produce, storage, labour for sorting, grading, package and transport	The price of kava sold to end users (retailers, consumers, exporters etc.)	Periods of oversupply Delay in payments from exporter
Processors/ exporters	Sort, grade, semi-process, package, store, and sell to overseas market	Cost of operating packing facility and operating trucks. Cost of cartons and packaging, paying for quarantine treatment, packhouse labour, etc.	The price of kava loaded on the aircraft (fob price)	Delay in payments from importer; product offloaded due to lack of airline space; market access problems.
Biosecurity (BAF)	Treatment, inspection, certification	Contribution to BAF overheads, time of BAF officers	Fees and charges paid by exporters.	Limited
Land transporters (eg. WG, DHL etc.)	Transport packaged products from Suva to Nadi Airport	Cost incurred to load and transport cargo to Nadi Airport.	Charges paid by exporters	Low: delays breakdowns
Airfreight and seafreight operators	Transport cargo from Nadi to export destinations	Freight costs, labour and management, etc.	Freight charges	Moderate: post shipment losses, claims and delayed payments from consignees

Actor	Contribution	Costs Incurred	Rewards	Risks
Importers and wholesalers	Clears, stores, and distributes the product to retailers	Price of product paid to exporter, clearance, handling and distribution costs	Prices of kava sold to consumers and retailers	Quality issues Price undercutting from competitors.
Consumers	The customer at the end of the chain	Retail price of kava	Consumption of kava	Uncertainties about quality

ANNEX 4

Annex 4
Gender and Social Inclusion in the Kava Value Chain

Overview

Although women form almost half of Fiji's total population, they remain unequal partners and get unequal benefits from business partnerships and face many constraints compared to males. Fiji's Country Gender Assessment[11] conducted in 2015 showed disparities between men and women in various sectors, including agriculture.

Official agriculture statistics for 2015 show that women make up only 2% of total kava farmers in Fiji. Based on the assessment done, this may be a total understatement on the level of participation and the contribution of women in the kava sector.

In view of the disparities between men and women in the various sectors including agriculture, government strategies are committed to achieving gender equality and mainstreaming of gender concerns across all these sectors. Policies have been developed and recommendations made to ensure women and females' full access, participation and competition across all sectors.

Interviews conducted with women involved at various level of the kava industry show that the larger portion of women who are involved in kava production and raw kava processing and who live in the rural remote areas have not been exposed or received any information or training that would empower them to increase their knowledge and improve their level of participation in production, processing, marketing and export of kava.

Interviews conducted with MoA field officers confirm that women are venturing into the male-dominated agriculture sectors like kava, taro and other root crops farming, including livestock farming. Despite the many issues like land ownership and lack of access to funding that women in agriculture face, they are still able to farm, harvest and earn from the very small land parcels they are allowed to farm in. Better access to information and facilities offered by the Government and other agriculture stakeholders will greatly assist the participation and contribution of women in the agriculture sector.

On the other hand, women farmers involved in floriculture, virgin coconut oil production and small business enterprises have benefitted from government initiatives by MoA, Ministry of Economy's Integrated Human Resource Development Programs (IHRDP), Ministry of Women and other non-government funding programs aimed at empowering women to earn a regular income.

Comments made during interviews included the need to better recognise the involvement of women in agriculture through regularly collecting accurate information about them and their locations. There is a large and increasing number of women involved in the kava value chain than that officially recorded. Further research and support is warranted to determine the actual number of women involved, capture the significance of their contribution in the kava sector and support better recognition for women who are silently participating in the agriculture sector.

Women farmers and non-farmers interviewed discussed the difficulties and the lack of information on the types of assistance available for agriculture, the processes to be followed and the requirements to get any type of

[11] Asian Development Bank (2015) Fiji Country Gender Assessment

assistance. The lack of information and knowledge available to women farmers is a barrier to their productive participation in kava or in any agriculture sector.

A female farmer interviewed discussed the difficulties she faces in getting a loan to expand her kava farm and increase her kava production because she does not have a title to the mataqali land she currently farms on. Getting a title to the land requires at least over 50% of signatures of approval from the land-owning unit members. Even though she is a member of the land-owing unit herself, getting the approval and signatures of others requires a lot of protocol and is time consuming. Having prior and timely information on the banks' requirements would have enabled her to easily get a loan and extend her kava farm.

Women farmers need to be identified and form a group so they can have an inclusive voice in the sector. Because of the distance between kava farms, women are not aware of the next female farmer, and having a platform to specifically deal with women in kava will be a bonus for them.

Women in the Kava Sector

The current hike in prices after Cyclone Winston in February 2016 has resulted in a significant rise in activities from both women and men in relation to the acquisition of yaqona-planting materials and land clearance for planting.

According to one of the female farmer respondents, more women from her area are growing kava and are increasingly participating in other levels of the kava value chain. She is getting an increasing number of enquiries and requests for planting materials from fellow village women and women from nearby areas who had never done kava production before but participated in the kava value chain as "sellers". Both male and female respondents from the various areas visited noted that there are other female farmers in their areas who do mixed farming, including kava, but were not selected for interview. This indicates the extent of women participating in the kava sector that are not officially noted or recognised

Both existing women farmers interviewed have increased their individual kava production to between 4,000 and 5,000 plants from a previous of 2,000 plants per farm. Increasing their production indicates their higher level of confidence to compete in the male-dominated kava sector and also their determination to benefit from the high price of kava in both local and overseas markets.

Older women in household-owned farms report that they often have their daily tasks related to kava dictated by their husbands or male members of the household. These tasks include weeding, cleaning, drying, sorting, packing, selling, banking, payments and how to use income earned from kava. They predominantly play a supportive role and do not have the authority to make any decision in the administration of the farm and the money earned although their husbands always include them in the discussions. In some instances, they make joint decisions with their husbands or men in the household.

Younger women in household-owned farms are more involved in joint consultations and decision-making with their husbands and male family members compared to older women.

Individual female kava farmers interviewed had more control over the male labour they hire to do the heavy work like land clearing, planting and harvesting. Their husbands play a supportive role at all levels of the kava value chain. They have full decision-making authority over their farm and income compared to other female counterparts in household-owned farms.

Methodology

Interviews and discussions were carried out in five major kava-planting areas in Fiji: Bua, various parts of Cakaudrove including Taveuni, Kadavu, Levuka and Macuata. With data limitations to identifying and locating individual women farmers, more interviews were recorded for women participating at household level. Their information provided some insight into the constraints encountered by women and other relevant information. It is noted that due to time constraint and limited data available, a qualitative approach was appropriate to gather information surrounding the participation of women in the kava value chain.

Key Findings

- Kava is considered a traditional crop farmed and produced by men and male farmers only even though an increasing number of women are also planting and producing kava as individual farmers or supporting their household-owned farm

- Detailed reliable data on women in agriculture is very limited and outdated (as evidenced by the difficulties the team undertaking the analysis and government partners had in sourcing current or moderately comprehensive data)

- Participation and contribution of women in the kava sector is under-reported and recognition for women and their level of contribution to the sector needs to be registered and recognised

- Women participate at all levels of the kava value chain and the roles they play differ at the various levels of the kava value chain

- Examples exist where women are proactively involved in applied research relating to improving kava production and sales. This includes production issues related to planting, land and soil types, fertiliser, and varieties; different markets to target, processes required for exporting, and value-adding to produce new forms of ready to drink kava (this was recorded for Indo-Fijian women)

- Pushed by the increase in kava prices after Cyclone Winston in 2016, the shortage of raw kava supply and the stable rate of kava-drinking in communities and households, women are increasingly involved in selling pounded kava from their homes to earn quick income for their households

- Both men and women are involved in selling kava for home consumption (bameti, taga) at $2 to $5 per bag for 100grams.Women are reported to be controlling income from small

sales as such, while men control the income from bigger sales

- Both women farmers interviewed confirmed that at times they can earn a little less income from selling the same amount of kava compared to their male counterparts. This is because they lack the skills and knowledge to negotiate with buyers. Another reason is that they often reduce the price to relatives and friends who come to buy or they deliberately give excess amount to friends and relatives (this was only recorded for *iTaukei* female farmers)

- Majority of farmers interviewed, both male and female, say that are only selling to the domestic market and have no idea of how the export market operates. Male farmers tend to have a better knowledge of prices, buyers, exporters and export products of kava compared to their women counterparts

- Farmers in remote areas lack information on the overall kava value chain. This may be due to their remoteness and distance from urban centres and MoA service centres. This knowledge level is very different compared to farmers and buyers much closer to the urban centres and MoA service centres. For example, most farmers on Taveuni are better informed and have benefitted from some agriculture assistance programs, and are aware of ongoing changes in the kava sector because they have access to MOA offices by road and by public transport. Farmers interviewed in the remote areas of Bua and Macuata are less informed and do not have frequent access to MOA offices and the nearest urban centre due to poor infrastructure or limited public transport.

- In terms of kava planting and increasing production, women farmers interviewed are confidently participating at this level of the kava value chain but tend to rely on their husbands and male counterparts for market access, transportation, price negotiation and market deals and contracts and new planting information and knowledge.

Access, Trends and Governance

While women's participation is recorded at all levels of the kava value chain, from production to processing and to selling or exporting, tasks performed by women differ from men depending on the intensity of the task. In general, participation of women compared to men tends to thin out towards the higher end of the value chain where exchange of product and money takes place. Women farmers interviewed confirmed that they also plant dalo with their yaqona plants as an alternative source of income.

Marketing and selling dry and green kava now is easier since buyers are buying from their homes and farms. Buyers are also buying in green patches at up to $1,000 per 5-8-year old plant, lower prices are paid depending on the age of the plant and buyers bring their own labour to harvest. This mode of buying benefits both men and woman farmers as they do not have to pay for transport and labour.

Some farmers prefer to take their dried kava to the major urban areas and markets for higher retail prices. One

of the women farmers interviewed confirmed she would get $7,000 from her dried kava if collected by her buyer. But she could get $9,000 or more if she had taken it to Labasa for retail sale. Some farmers interviewed on Kadavu preferred to take their dried kava to Suva to directly receive the higher retail prices available due to the higher demand for kava produced on Kadavu.

There is a very high demand from domestic consumers. Women farmers and retailers are experiencing high sales at village and household level. In the rural areas, a 100gram bag of pounded kava is sold for $2 while the same volume can be bought at $3-$5 in urban Suva and in the Western Division.

Women interviewed confirmed benefitting from the high prices of yaqona compared to low prices before Cyclone Winston in 2016.Observations in the various homes visited confirmed ownership of modern household appliances, improved and accessible kitchen and toilet facilities for women and family, and vehicles purchased from kava income.

While prices are good and market is accessible, women compared to male kava farmers generally lack information about the kava sector in general. They are often left to follow, or rely on their male counterparts in accessing markets, customers and buyers, price changes, adopt new skills and knowledge. Women interviewed are positive that they will be able to improve their knowledge and access by continuing to participate at all levels of the sector.

Standards and Certifications

At the production level, women are heavily involved in processes leading to certification and confirmation of standards. Interviews with major kava exporters confirm that women are very skilful in cleaning and sorting dry kava for export. Women are also involved in meticulous work like quality control, branding, administration and accounting work relating to purchase and sales of kava products. Household-based farmers interviewed confirm relying on their wives to do the cleaning, separation, sorting and drying of kava. The women farmers interviewed took these processes as a personal responsibility to ensure the highest quality and standards for their product to ensure high income returns.

Technology and Product Development

Due to the current surge in demand for kava and the much higher prices famers are aware of the need to increase production and improve their kava products. Most famers reported that even though they own large supplies of kava, they cannot break into the export market due to lack of knowledge and the many criteria required before one can participate in the export market.

In terms of production, both men and women reported acquiring new areas for farming and using machinery for land clearing and drainage and construction of roads to their farms. Both women farmers interviewed report that they had to finance the construction of their farm roads as waiting for government assistance to build roads to their farms would only delay their efforts to improve their production level.

Both men and women farmers and household support workers are now resorting to new technology like the use of machines, sprayers, weed killers and fertilisers to improve production.

Women respondents commented that they do face difficulties in acquiring assistance as kava is male-dominated and their participation is undermined. But also that the situation had improved over time in relation to farm visits by MoA officials, and the supply and distribution of fertiliser and planting materials.

Management/ Organisation

Women interviewed responded that women need more empowerment and networking in order to gain strength and compete confidently in the male-dominated sector. Women farmers and household support workers in the remote areas are isolated and miss out on training and new knowledge accessible to their counterparts who farm and live closer to urban and service centres.

Requirements for training reported by women include more face-to-face consultations with MoA officers and other government stakeholders, new farming and technology training, book-keeping and business training and banking awareness, and more awareness of opportunities available to women.

Finance

Women farmers reported reinvesting their income earned from kava sales to fund their own kava-farming activities like building roads to their farms, and buying planting materials and fertiliser. They do not usually meet the criteria required by the banks and other funding agencies banks. The same trend was also reported by male farmers who have acquired new areas for farming.

Due to lack of individual entitlement to mataqali land commonly used for kava farming, *iTaukei* farmers miss out on opportunities for financial assistance by banks and other funding programs. Some *iTaukei* farmers are just not aware of funding opportunities available, are reluctant to take loans and prefer to operate at the lower business end and not entering into commercial kava business.

In the interior of Bua and Macuata, access to banking facilities is a constraint due to the remoteness of kava farms from urban centres. While all farmers interviewed record having a bank account, other smaller farmers in the same areas may not see the need to have a bank account due to the limited income they earn. In some areas visited like Kadavu, farmers are serviced through the post office for their banking and money transaction needs. On Taveuni, farmers are serviced by a single bank limiting the options for farmers to get additional financial assistance sales.

Policy/ Regulation

In some areas there was a strong view by farmers of the need for greater regulation of kava production and sale. "The kava sector needs to be regulated and existing policies have to be widely dispersed to farmers in order to control buying, selling and theft in the sector". This or similar comments were recorded from farmers interviewed in the Northern Division. This came as a result of the high level of theft and the high rate of green kava sales which both cause the decrease in planting materials and increase in green kava theft.

During the time of field work, a ban on green kava sale and purchase was introduced by the Government on Taveuni but the authorities did not have the capacity to rigorously monitor and control.

In general, banning the sale of green kava allows more exchange of planting materials between farmers. Women are recorded to have received support through the provision of planting materials from male counterparts but support receded during periods of green kava sale. Women farmers have also become victims of kava thieves during this period but stealing has decreased after the policy to stop green sale was activated.

Though national prices for dry roots were high - between $100 and $150 per kg - buyers manipulated farmers who were in need of quick cash to sell at a much lower price. According to farmers, the prices need to be regulated and monitored by the Government so farmers get the full benefit of their hard labour.

Green kava is usually sold at FJD10-15/ kg. Green kava provides a quick and easy income source for women who plant on a small scale as they can earn around $60 per plant. By selling green kava they are able to avoid the long process of drying and sorting which prolongs the time to earn an income. Selling of green kava allows more time for women to focus on other work but this may change if the ban on sale of green kava is fully enforced and monitored nationally.

The kava industry is considered by some to lack adequate regulation and monitoring systems at some levels, especially for kava processing. For example, buyers generally have business licences but there is no limitation on the type and quantity of kava they buy. But some buyers do not have business licences. Farmers can be inclined to sell at the lower prices offered by buyers who come to their door. Women farmers can be more subject to lower prices due to their lack of negotiation skills, their reluctance to undertake long travel, and the lack of transportation facilities to better selling points like the major urban centres and markets in Labasa and Suva.

Suggestions were received for government agencies to buy directly from farmers and then sell to other buyers, but this may also have disadvantages to farmers and the overall value chain itself.

Infrastructure

Poor roads are a great limitation to kava production. Limited road access to farms is a major issue for all types of farmers in relation to transporting planting materials, tools and equipment and their accessibility to markets and service centres. Families who live on remote farms in the Northern Division reported having their children live in Labasa with relatives, or in rented homes in urban centres so they could attend school and also be close to health facilities. Some families report owning a property in Labasa town where their children live. They reported that due to poor road conditions, unreliable public transport, poor communication networks, lack of electricity and remote distances, their children would otherwise not be able to attend school.

Membership Organisations

Most interview respondents are operating individually. They are not members of any kava farmers group that could represent their concerns to the appropriate authorities. However, in relation only to kava farming, male farmers and household-based farms are reported to form groups and work on rotational basis on each other's farm (solesolevaki). This type of group work is very beneficial for farmers as they are able to increase efficiency compared to working individually.

Lack of information on each other, the limited number, lack of support, and poor infrastructure do not allow women to form a group and have a collective voice in the kava industry or do collective group work.

Mapping the location of women farmers, increased networking between women who are involved in the kava sector and visitations for information by MoA and farmer groups/associations such as the Yaqona Farmers Association under the Fiji Crop and Livestock Council may improve the situation for women and men.

ANNEX 5

Annex 5
Kava Value Chain Analysis

Table 1: Costs and Returns for Kava Growing (FJD per annum)

Unit: one hectare

Gross Income		Year 1	Year 2	Year 3	Year 4	Year 5	Total	Average
kg sold (dry weight)				1,445	1,445	2,166	5,056	1,011
Revenue from sales		0	0	57,803	57,803	86,632	202,238	40,448
Total Gross Income		0	0	57,803	57,803	86,632	202,238	40,448
Variable Cash Costs	Unit Cost							
Cuttings (4 per hole)	0.2	5,200					5,200	1,040
Urea (1 bag/ha/year)	89	89	89	89	89		356	71
NPK (1.5 bags/ha/year)	98	1,068	1,068	1,068	1,068		4,272	854
Glyphosate (12 L/ha/year)	17	134	134	134	134		534	107
Total Variable Cash Costs		6,491	1,291	1,291	1,291	0	10,362	2,072
Labour Requirements (days)								
Land preparation		30					30	6
Planting		30					30	6
Replacement of dead plants		20					20	4
Maintenance/weeding		60	50	40	40	20	210	42
Harvest/transport to wash site				20	20	20	60	12
Cutting and washing				20	20	20	60	12
Drying				10	10	10	30	6
Baling				4	4	4	12	2
Total Days		140	50	94	94	74	452	90
Labour Cost	15 FJD/day	2,100	750	1,410	1,410	1,110	6,780	1,356
Total Variable Costs		8,591	2,041	2,701	2,701	1,110	17,142	3,428
Gross Margin/ha							185,096	37,019
Gross Margin/labour day							425	425

Assumptions

No of plants planted/ha No of plants harvested/ha Yield per plant (kg)	6,500 5,200		1.25 m x 1.25 m 20 percent losses
	Green	Dry	
Year 3	2.50	0.56	Drying ratio 1: 4.5
Year 4	5.00	1.11	
Year 5	7.50	1.67	
Yield per ha (kg)			
Year 3 2,600 plants	6,503	1,445	
Year 4 1,300 plants	6,503	1,445	
Year 5 1,300 plants	9,746	2,166	
Total 5,200 plants	22,752	5,056	
Farmgate price (FJD/kg)		40	

Table 2: Costs and Returns for Kava Trader (FJD per annum)

Unit: 0.5 tonne per week of dried kava puchased

Gross Income	**Per week**	**Per year**
kg sold (dry weight)	450	18,000
Revenue from sales	22,500	900,000
Total Gross Income	**22,500**	**900,000**
Variable Cash Costs		
Purchase kava at farmgate	20,000	800,000
Vehicle operation: one tonne pickup	242	9,680
Bags: 20 kg/bag, FJD 1.00/bag	25	1,000
Labour: FJD 15/day x 5 days/week	75	3,000
Other: communications etc.	50	2,000
Total Variable Costs	**20,392**	**815,680**
Total Gross Margin	**2,108**	**84,320**
Gross Margin per kg purchased	**4.22**	**4.22**

Assumptions

40 FJD/kg for dried kava purchased at farmgate
50 FJD/kg for sale to market vendors or processors/exporters 10 % percent shrinkage and wastage
40 weeks/year

Operating Costs: 1 tonne 4wd pickup		
12,000 km/year	FJD/year	300 km/week x 40 weeks
Fuel: 15 L/100 km @ FJD 2.60/L	4,680	
Registration and insurance	1,800	
Servicing (2 per year)	1,200	
Tyres (four tyres every 2 yrs)	800	
Repairs and maintenance	1,200	
Total Operating Costs/year	9,680	
Total Operating Costs/km	0.81	
Total Operating Costs/week	242	40 weeks/year

Table 3: Production Costs and Returns for Kava Retail Vendor (FJD per annum)

Unit: 0.2 tonne per week of dried kava puchased

Gross Income	**Per week**	**Per year**
kg sold (dry weight)	180	9,000
Revenue from sales	14,400	720,000
Total Gross Income	**14,400**	**720,000**
Variable Cash Costs		
Purchase kava from trader	10,000	500,000
Hire of market stall	1,000	50,000
Cost of pounding and bagging	400	20,000
Labour: FJD 25/day x 6 days/week	150	7,500
Packaging materials: paper/plastic bags	100	5,000
Other	50	2,500
Total Variable Costs	**11,700**	**585,000**
Total Gross Margin	**2,700**	**135,000**
Gross Margin per kg purchased	**13.50**	**13.50**

Assumptions

50 RD/kg for dried kava purchased from trader
80 RD/kg retail prices of powdered kava
10 % percent shrinkage and wastage
50 weeks/year

Table 4: Costs and Returns for Kava Exporter (FJD per annum)

Unit: One tonne per month of dried kava (waka) puchased

Gross Income	**Per month**	**Per year**
kg sold (dry weight)	900	10,800
Revenue from sales	90,000	1,080,000
Total Gross Income	90,000	1,080,000
Variable Cash Costs		
Purchase kava (waka) from traders	70,000	840,000
Pounding	2,250	27,000
Labour for sifiting	585	7,020
Packaging, bagging and labeling	270	3,240
Air freight to Nadi	720	8,640
Customs and biosecurity	270	3,240
Air freight to USA	7,200	86,400
Other	1,000	12,000
Total Variable Costs	**82,295**	**987,540**
Total Gross Margin	**7,705**	**92,460**
Gross Margin per kg purchased	**7.71**	**7.71**

Assumptions

70 FJD/kg for dried waka purchased from trader
100 FJD/kg export price of powdered waka
2.50 FJD/kg for pounding
0.65 FJD/kg labour for sifting
0.30 FJD/kg for packaging, bagging and labeling
0.80 FJD/kg air freight to Nadi
0.30 FJD/kg customs and biosecurity charges 8.00 FJD/kg air freight to USA
10 % percent shrinkage and wastage
12 months/year

Table 5: Summary of Kava Value Chain Analysis (FJD millions per annum)

Pricing Structure

	FJD/kg	
Farmgagte price	40	for dried kava sold to trader
Wholesale price	50	for dried kava sold to vendor
Retail price	80	for dried/pounded kava sold to consumer
Export price	100	for waka exported to USA
Export price	20-30	for dried kava exported to NZ and Kiribati

Domestic Marketing Pathway: one ha of kava

	Farmer	Trader	Vendor	Total
kg purchased		1,011	910	
kg sold	1,011	910	819	
FJD'000	Farmer	Trader	Vendor	
Gross Income	40	46	66	151
Variable Costs	3	41	53	98
Gross Margin	37	4	12	54

For 4,500 ha of kava

	Farmers	Traders	Vendors	Exporters
tonnes bought		4,550	4,095	310
tonnes sold	4,550	4,095	3,686	250

FJD millions	Farmers	Traders	Vendors	Exporters
Gross Income	182	205	295	25
Variable Costs	15	186	240	23
Gross Margin	167	19	55	2

Figure 1: Domestic Value Chain for 1.0 ha of Kava (FJD'000 per annum)

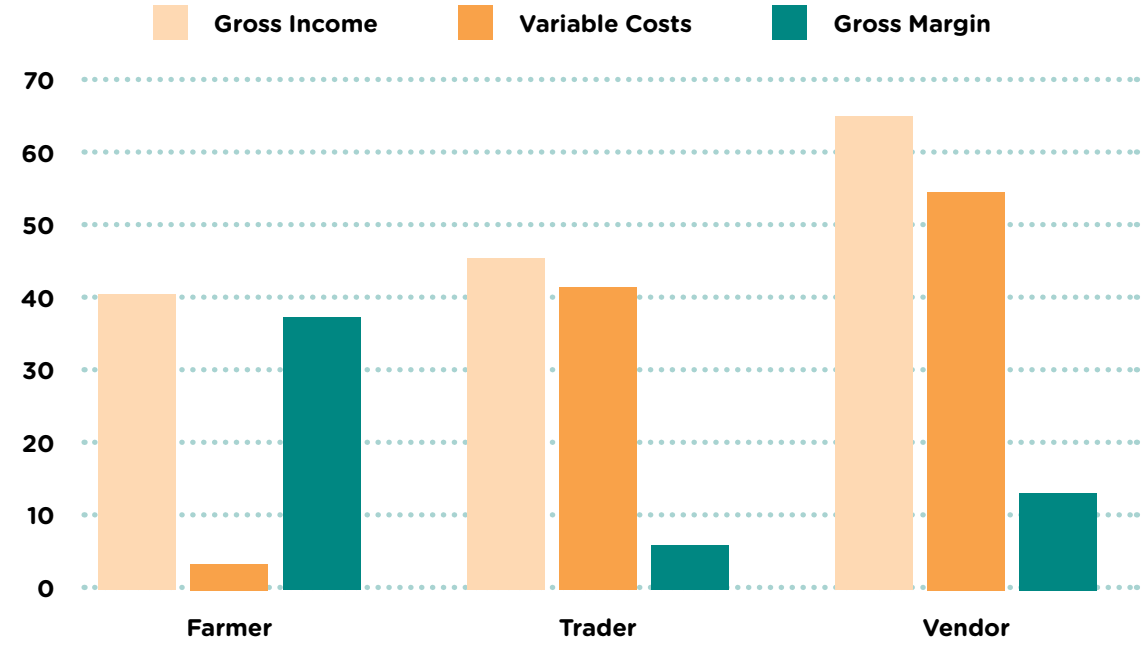
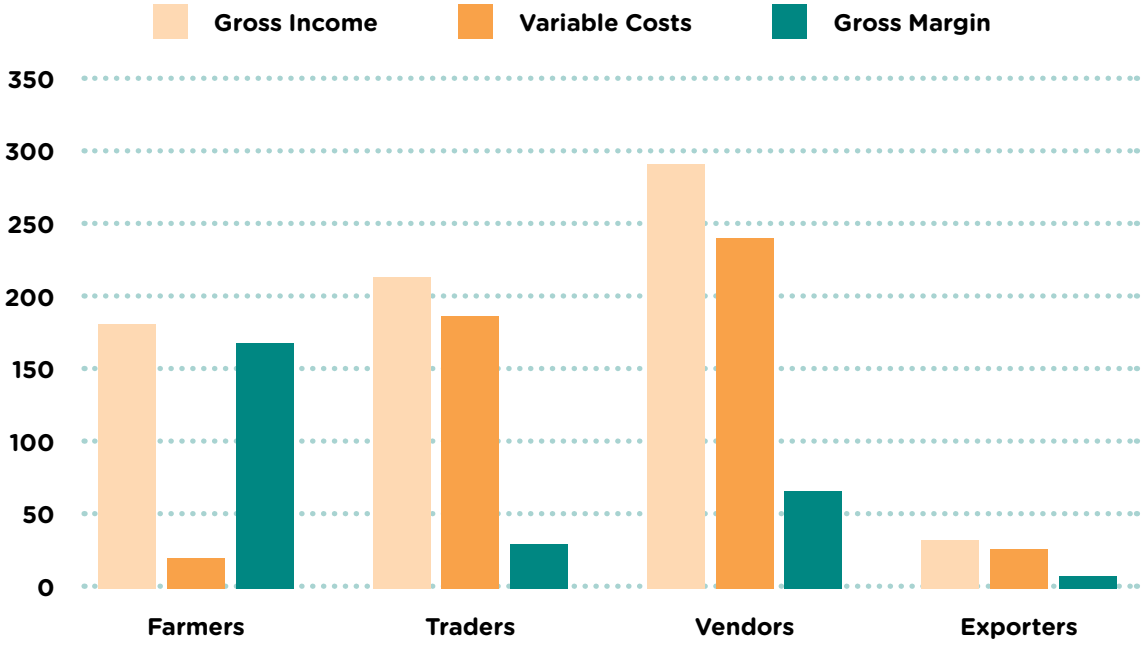


Figure 2: Value Chain for 4,500 ha of Kava (FJD millions per annum)



ANNEX 6

Annex 6
Kava Value Chain Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

The following are the findings of a SWOT analysis undertaken by kava industry stakeholders at a consultation workshop on Wednesday 16th August 2017

Strengths

- Uniqueness to Fiji and strong Fiji brand image
- Government support for the kava sector, including funding from MoA
- Kava growers generally have a lower age profile than sugar farmers
- Strong local demand and export markets
- Availability of land for growing kava
- Very attractive prices
- Interest among youth in becoming kava farmers
- Potential to piggyback on other brand images (e.g. Fiji Water)
- Opportunities to engage women in kava farming
- Potential to attract foreign investment in value addition[12]

Weaknesses

- Shortage of supply
- No mechanism for controlling price fluctuations
- No quality control standards enforced (may be addressed when a kava strategy developed and the Kava Bill and regulations are passed)
- Shortage of planting material
- Lack of market information, marketing knowledge and skills, production technical knowledge and skills
- Need more training and awareness in farm management, financial literacy, production techniques, nursery, soil health etc.
- Lack of data and statistics disaggregated by sex and age
- Women not recognised for their work in maintenance etc.
- Lack of a strategic plan and strategic direction with coordinated efforts for the industry
- Limited branding, packaging and marketing in both domestic and export markets
- Laboratory at Koronivia unable to test kava quality. USP testing too expensive.
- Limited research and extension capacity
- Land tenure systems
- Local field officers generally young and inexperienced
- Lack of in-service training in extension division
- Need to improve farming systems and yields
- Production on steep land without terracing/contour farming
- Lack of incentives for young people to grow kava
- Difficult to access information about kava
- Confusion about the role of FCLC versus MoA

[12] It was noted however that kava is a "reserved" industry under Fiji's foreign investment act which means that only Fiji national may engage in the sector.

Opportunities

- Lucrative overseas market and strong domestic demand
- Expand crop areas and increase production
- Increase supply of planting material from tissue culture lab and nurseries
- Improve advisory services
- Capacity-building, training and awareness including value-chain costing
- Product diversification and value addition
- Improve quality control based on Codex Standard
- Clustering of farmers and bulking of produce to increase bargaining power
- Improve availability of extension services and grants
- Encourage foreign investment in the kava industry
- Focus on preferred varieties
- Find ways to mechanise production

Threats

- Pests and diseases, e.g. kava dieback and nematodes
- Natural disasters: cyclones and droughts
- Increased competition from other countries
- Theft of kava
- Sustainability: production in steep slopes, fertility decline etc.

ANNEX 7

Annex 7
Case Studies


JUST DO IT

Women Take the Lead in Nurseries

In the crater of an extinct volcano on Ovalau in eastern Fiji, women nurture kava plants in fertile soil taken from the slopes surrounding their village. At five months the kava plants will stand about 30 centimetres tall and be ready for transplanting on the island or sold as planting material to farmers around Fiji.

Vani Naucukidi drives this project which is less than a year old and has been designed to prepare resilient, disease-free plants which produce high yields. Concerned about the possible effect of taking too much rich soil from the slopes and the threat of erosion, Naucukidi's group decided to make its own potting mix blend.

Enter former agriculture officer and researcher, Sant Kumar. "We went to Kumar's facility in Nadi and learned how to cook (sterilise) soil," Naucukidi said. "The process ensures that any bugs which might threaten the new kava plants are killed and we also get rid of the grass seeds. Those grass seeds can sprout around the plant and kill it early on, so this method of sterilisation gives the new plant a huge advantage when it's placed in the field."

Guided by the new process, Naucukidi and the women gather soil from the slopes and this is mixed in equal parts with compost and sawdust. Two cement blocks are placed in an old 166-litre oil drum and covered with iron mesh or chicken wire. Water is poured into the drum to four centimetres below the mesh. A piece of bamboo is hollowed out and as many holes as possible are drilled along its length. This bamboo tube is stood in the centre of the drum. A thick plastic or tarpaulin sheet is placed above the mesh and the drum is filled with potting mix.

The women light a fire under the drum and the steam is carried through the bamboo tube into the potting mix at 80°C for up to 40 minutes. All the materials are readily available in the village or can be purchased at a low cost in Levuka Town which is 30 minutes away by bus.

"It's practical, cost-effective and not much heavy work is required," Naucukidi said. "This is perfect for a women's project because we look after the children, tend to the house and contribute to the major income activity of the family. We become part of the industry in a real way."

Typically, the women of Lovoni are responsible for weeding around the young kava plants for the first five months to a year in a process known traditionally as qavi. The sterilised soil project means the physical portion of the back-breaking qavi role can become a thing of the past for communities who wish to take the new approach.

Naucukidi is excited. "We can plant the kava ourselves or just run nurseries and sell the plants at $5 each and then there is the option of doing both," Naucukidi said.

She has 50 plants ready for the farm or sale, sheltered under a home-made green shed behind the house. The shed posts have been taken from trees on family land, the benches made from old coconut trees and the shade is provided by palm leaves – locally, built and bio-degradable. Only the black plastic bags holding the healthy plants have been introduced.

For Naucukidi's brother, Isireli, the greenhouse and sterilised soil make perfect sense. "We can control quality all the way and for the first five months the plants are in full view of the household," Isireli said. "No need to travel to the farms and we can take out unhealthy plants or give more attention to the weak even before they are placed in the field. Healthier plants mean better survival chances, lower maintenance costs, greater yield and higher prices."

That control of the kava crop from formation to sale is critical for Isireli's plans to expand the business. And he has recognised that his buyers will pay top dollar if he can produce a high-end crop.
Taki Mai – based on Ovalau – exports its kava blends to the United States and must meet strict local and foreign quarantine rules. Isireli knows that to produce for Taki Mai means he must be very careful at every step of the process.

"That's why I'm interested in this clean soil and anything that can keep our costs under control," he said. "One killer in the industry is lack of planting material which then forces that particular cost up. The nursery means we should not run out of planting material."

Quite literally the women of Lovoni have given the kava industry a new life. From the crater of this dormant volcano the industry is ready to burst into life and spread all over Fiji.

Growers Want a Voice

Farmers have called for a greater say in the running of the kava industry. And they believe that with more influence in the industry, they will be able to derive greater benefits while having a positive effect on the national economy.

Jone Masi Naucukidi has been planting kava for more than 40 years in Lovoni on Ovalau in eastern Fiji. The crop has allowed him to build a house, establish a small shop and a successful business, put two children through school and find decent employment.

Jone is happy with life and is semi-retired but maintains a keen interest in the kava industry. "Prices are determined by producers and the middlemen, let's face it," Jone said on the wide verandah of his village home. "Over the years they have controlled prices and by extension controlled us. They know we don't have trucks to transport kava to the market and they know banks won't lend us money, so we are forced to pull the crop and sell it early when we need money."

In Fiji, land is owned communally and banks are reluctant to offer loans because there is often no way to take possession of a farm on a customary title if the debt can't be repaid. Jone believes a possible solution to farmers' woes is a State-funded cooperative which buys all the kava and sets the prices.

"Our influence as farmers would be through representatives on the board of the cooperative," he said. "The low prices offered by the middlemen and producers really hurts us, so it's really important that we have a say and ensure a fair price for farmers."

At current prices, waka (the main root) is bought at FJD70 a kilogram at the farmgate while it can fetch up to FJD1020 in the local market. A typical plant will produce three kilograms of waka worth FJD210 at the farm, six kilograms of lewena worth FJD240 at the farm while the stems (kasa) may sell for a further FJD200. While the whole plant is bought for FJD600-750, the middleman and producer can make two to three times that amount by pounding the kava and selling a blend in the market.

"Because we don't have transport, we are at the mercy of the buyers," Jone said. "That is a cycle we must break."

Jone and the Lovoni community have embarked on a mission to set the price of kava on the back of soaring prices in the wake of Cyclone Winston in February 2016. A small farmers' collective in Lovoni is developing a nursery to ensure constant, consistent, quality planting material and lower labour costs.

The next step will be to set a price on harvested kava from the community and demand that buyers pay farmers a standard rate. Once that is achieved, Jone believes the step to an island cooperative set-up is only natural and will benefit everyone on Ovalau.

"Obviously we know how to grow kava and it thrives on the island," he said. "The onus is on us to make it work and work well. We must have a say and if need be the farmers must force the buyers to sit up and listen to what we have to say."


NIK

Women of Vision

Kuini Naivuki has a goal – to retire before she's 40 from the proceeds of the family kava farm. With her husband, Eparama Tevita, she has 3,000 plants in the ground on a portion of a 30-year lease at Dogotuki in Macuata Province on Vanua Levu. There are plans to plant another 2,000 kava plants by the end of the year, giving the farm a potential value of FJD 5 million in five years.

"By the time I'm 40 I want to be in full-time retirement," said Kuini, 24, who started farming two years ago with her husband and father-in-law on land leased from their mataqali (land-owning unit). "This is our shared vision and we work together on the farm every day to ensure the dream becomes reality. We dream together, we make sacrifices together and we'll be successful together."

To ensure they spend the most possible time in the farm, Kuini and Eparama hire a nanny from the local village to care for their two sons – both under the age of five. That means the couple saves money on labour for planting and they can ensure the crop is planted according to their specific method.

Kuini completed Form Seven at Rishikul College in Nasinu, while Eparama left school after Form Four at the local Duavata Secondary School. But their knowledge of crop management, planning and even research and development has been honed from two years of hard work and painstaking observation in the field.

"Die-back disease which attacks the roots of the kava plant are our biggest threat," Eparama said. "We keep an eye out for any hint of disease and address it immediately. Any risk to the rest of the crop is too great, no matter how insignificant it may seem at the time."

The Dogotuki couple addresses the die-back threat by uprooting the diseased plant, chopping it into small pieces and burning it in the hole from which it was dug. Any farm implements used in the process are then meticulously cleaned and treated with disinfectant or placed in fire.

Kuini and Eparama are keenly aware of the need to control disease, ensure quality plant production, produce consistent supply to the market and have developed their frameworks and pathways for selling through trial and error. They now have dedicated buyers who arrive at the farm gate when plants can be harvested. Prices are settled in advance, usually after the couple spend a weekend in Labasa, the nearest town, researching kava prices in local shops and the market.

"If we're short on cash we call the middleman and he advances us payment on the next harvest and sends it up by bus," Kuini said. "The following week he comes to harvest, weighs the kava and subtracts the advance from the payment – everybody's happy."

The couple have bought a small, simple home in Labasa where they can spend the weekend and get away from the farm. With proceeds from the next harvest they plan to buy a four-wheel drive truck which will be the family transport and a means to generate revenue and working capital.

Already Kuini and Eparama are recognised by young people in their village as leaders and examples of how to make a living off the land. "Sometimes the young men work for us clearing the land and harvesting the crop but the planting is our task," Kuini said. "There's a way we want the kava planted because we know it creates greater yields. That part of the process we will not entrust to others."

Kuini wants her boys to have the benefit of a quality education at the best possible schools and universities, even if it means paying for it herself. The way forward – Kuini and Eparama believe – is through farm skills training and financial literacy classes, preferably conducted in the community in the evening.

For them, the less time spent off the farm, the better if they want to retire in less than 20 years.


NORTHERN AGRICULTURE SHOW
2017
YOUNG FARMER
OF THE YEAR
MR. ROPATE RATAKELE

Rising From the Ashes

When Ropate Ratakele walked through his kava plantation the day after Tropical Cyclone Winston, the scene was too much to bear. Plants had been uprooted by the Category Five storm, years of hard work brushed aside by the force of nature. Visions of a steady income and bright future and providing for the family from the fruit of the land had vanished overnight.

"I stood there in the middle of the two-year-old plantation and wanted to give up," Ratakale said. "How can you fight nature? Some of the plants had been uprooted, others lay to one side with the roots partially exposed, many had lost their leaves. I wanted to walk away from it all. My mind said – enough!"

But a day later in the hills above Tavuki Village in Central Taveuni, Ratakele trudged up the slope to a new site and began to plant more kava. Through sheer tenacity he has carved a fresh plantation out of the devastation caused by TC Winston and laid the foundation for his financial future. Today the young farmer has more than 1,000 plants in the ground with a current market value of FJD 500,000 when they mature in two years.

The portion of his plantation which was torn up by the cyclone has started to rehabilitate itself naturally. "When I went back to the old plantation about three months after TC Winston, the plants had started to grow again," Ratakele said. "It was amazing to see how – if left alone – those plants could recover on their own. Of course, some were damaged beyond repair but most of the crop had grown again. The secret which we did not realise at the time was to leave the kava alone and let nature take its course."

While Ratakele lost some plants and an estimated six months of growth time, much of the TC Winston-damaged crop will be ready for harvest next year at the earliest. The revenue from sales will allow him to start building a new house in the village and rent a small shop space at one of Taveuni's urban centres – Wairiki, Waiyevo or Naqara.

Already Ratakele has bought a twin-cab truck from the proceeds of kava sales and built a small farm house in the hills above the village. The truck is operated as a business carting freight and passengers and bringing in a regular weekly income which pays for family expenses and wages for casual farm labourers.

With the farm house Ratakele can spend the week in the plantation keeping a close watch over the plants. His hard work was recognised with the National Young Farmer of the Year Award which he won this year.

Taveuni-born and bred, the young farmer appears nonplussed by the attention the award creates among visitors. "When I completed Form Seven, my dad actually forced me into farming to take over his kava plantation and make use of our traditional land," Ratakele said. "This is not what I had in mind while at school. So it was straight out of the classroom and into the plantation. Sometimes I asked myself what I was doing.

"But then we pulled the first harvest and I saw the money. I realised that if you work hard you can have whatever you want, do whatever you want, go wherever you want. But it's up to you. You and hard work."

Today Ratakele is a model to younger villagers who often seek advice from him on how to start their own farms. It's advice he's willing to share from his front porch or on the rugby field during training sessions with the village team.

To help kick-start his cousins in the kava business, Ratakele has even offered the use of his farm house for young men who want a base in the hills from where they can easily access the land. "We can all share the wealth kava brings," Ratakele said with a smile.


ER

One for the Thieves

Patrick Ting's truck crabs up the slippery slope, four-wheel-drive engaged, the tyres throwing clods or rich, black soil into the air as they strive to gain traction. The rain drums down on the roof and the windscreen wipers work furiously to allow us a glimpse of the track through the kava fields high in the mountains above Navonu in Cakaudrove.

"You can see where the thieves have pulled out our hard work," Patrick yells over the roar of the engine as he struggles to keep the truck on what passes for a road. "We plant an extra five to 10 per cent of our crop to take into account the losses from thieves. Theft is on the rise, the police take ages to get here, so we need to take practical steps." The thieves also steal dalo and other crops from the farm which covers close to 300 acres of rich forest which have been leased from local landowners.

Patrick Ting is a second-generation farmer of Chinese and *iTaukei* heritage who has no hesitation in calling a spade a spade – or in this case calling a thief a thief. "You know, these are our own people who steal the kava and the dalo and we all know who they are," Patrick said. "But to file a complaint, we must call the police, bring them to the farm, give statements and then drive them back to the station because they have no transport – it's time off the farm and we can't afford it.

"On top of that the thieves are related to us. If a man goes to jail his wife will end up here asking for food or money for milk for the kids and other household expenses. In the end it's better that I allow them to steal because at least I know the kids are taken care of and a family somewhere is having a decent meal." The situation is surreal but in practical terms it is provision for losses or bad debts.

The Ting farm has been in existence for two decades and has provided a means of existence for the family and the greater community. Labour is drawn from nearby villages with the workforce swelling sometimes to 50 people a week engaged in farming, harvesting drying and processing. Ting has his own storage sheds, driers, a six-tonne truck to carry firewood and supplies and an excavator to cut roads through the forest to open up new tracts of land.

So, how much kava is out there in the rolling hills of Cakaudrove on the Ting family lease? There are at least four small farm houses at strategic points on the property and each is surrounded by its own plantation of dalo, tavioka, bele, pawpaws and chillies.

"Farming is tough work and you need fuel for the equipment and the men," Patrick said. "We grow our own food and provide the workers with meat, vegetables and root crops. Growing our own keeps the costs down."

Kava is a competitive business in Cakaudrove and the tricks of the trade along with market intelligence are closely guarded, giving the person with additional knowledge a huge edge over the competition. In order to ensure quality control and a consistent product from farm to market, Patrick takes a hands-on approach and conducts daily, practical research and development.

"Remote control doesn't work in this business," Patrick said as he stooped to examine some fungal growth on a plant. "When we see this fungus it's better to dig the plant out, cut it up and burn it. Stop the rot right here, right now. We have to know what's happening on the ground every moment of the day and how much kava is ready for the market, what to do if there's a hurricane. "In the driers we need to control the smoke, ensure we're using the right timber as fuel. Wrong timber, too much smoke, soot on the grog, bad taste means the buyer won't take your supply next time."

Patrick dropped out of school at Class Seven to help his dad run the farm but you'd never know it listening to the stream of knowledge that pours from his tiny frame. Much of that knowledge has been gained first-hand in the field, from his father or in the countless books and Internet articles read over more than 20 years as a farmer.

"There's nothing to stop us from reading up of farming techniques and economic models which have been successful around the world and no reason they can't be adapted to work here," Patrick said as he drove back to the main farm house. "We need to know our product and what the buyer wants and then put in place the mechanism to ensure that we deliver." In the case of the Ting family that has meant building their own roads and making culverts out of discarded fuel drums so that kava can be moved easily from the field to town.

Patrick has never been one to wait nor does he believe in relying on others. "God has given us common sense. If the State doesn't step in on time to create clear pathways for our produce or roads for transportation, we should do it ourselves."

Patrick's father, Mika, started the farm some 25 years ago on a small block of land leased from his maternal uncles. After completing Year Seven, Patrick dropped out of the local primary school to help his dad on the farm and allow his seven younger siblings a better chance at education. "There was no way my dad could put every one of us through school so I decided to help on the farm," Patrick said.

"Now I look at the young ones with the latest phones and gadgets and an easy life in town. They don't walk six miles each way to school or take a piece of cassava for lunch. But what we have today is from hard work and sacrifice and it's important that the young ones spend time on the farm and learn about our roots. We must never take things for granted."

Today Patrick runs the farm, his mum looks after the younger siblings who attend school from their Labasa home and his father pursues his studies as a catechist for the Roman Catholic Church. "When they want to take a break and travel overseas I make sure they can go – there must also be a quality of life at the end of years of hard work," Patrick said.


DAIRY MILK
ONE WAY
ICKET

Youth with a Mission

Tropical Cyclone Winston left swathes of Fiji devastated and communities homeless in February 2016. On the eastern coast of Ovalau Island, the village of Tokou was pounded by storm surges and lashed by 280 kilometre-per-hour winds destroying the local school and dozens of homes.

The task of rebuilding has not been easy. More than a year later, some villagers continue to live in makeshift shelters as they await cyclone relief supplies. But while Winston may have destroyed homes, it could not destroy the dreams of a group of young villagers and their vision for a bright, sustainable future on the land they love and cherish.

Dike Tawake is secretary of the Veivueti Youth Club which comprises 10 men and two women.

"Immediately after the cyclone we had no electricity and we had no idea when power would return," she said. Despite the absence of power, Tokou's young people remained fanatical about sevens rugby and, like the rest of Fiji, eagerly followed the national team's quest to win gold. "Our main concern was being able to watch the Rio Olympics (in August 2016) so we decided to gather every week, put aside money for a generator so that we could watch the games.''

But power was restored before the Olympics and the money raised for the generator went into the establishment of a little shop selling basic food items – canned meat, tinned fish, rice, flour, cooking oil, noodles, jam and other village necessities.

The weekly meetings and fundraising continued and discussions soon turned to replanting of individual and communal food plantations. It was decided that the group would plant vegetables for sale in the village and nearby Levuka Town. Within a matter of weeks the discussions turned to the possibility of farming kava on a commercial scale and as a long-term crop using traditional labour and agriculture methods.

Each of the 12 young farmers has planted 700 kava plants, 10 vudi (plantains) trees, 10 banana trees, 10 breadfruit trees and 10 coconut trees. At current prices for five-year-old plants, each farmer has made a FJD700,000 investment in kava alone.

"That's the long-term investment – the kava – which should mature in five years and will allow each farmer to build a decent house and start a family," Dike said. "Our everyday needs are provided for through the vegetable farms and supplemented by income from the shop."

With a shortage of planting material on Ovalau, the group has sent key members to a workshop at which they were taught to sterilise soil and raise kava plants in nurseries. A small nursery is now in operation in the village to supply the club members.

Each member must spend a day a week in a group activity which involves working collectively on one plantation. A second day in the week is spent by the member on his or her individual plantation. Members also spend one day a week on village duties and another on vegetable gardening as a collective. This leaves one day for worship and two for leisure or individual farming and fishing.

Tokou is a predominantly Catholic village and faith plays a large part in the lives of these young people. "We pray together before work starts every day and commit ourselves to the task, to each other and to God," Dike said.

"Most of us have only attended secondary school so we'd appreciate any help in terms of financial literacy training, new planting techniques, investment, and growing business. The labour and farming is not a problem. We know how to work hard, we're not afraid of that. It's the school stuff we need help with."

Club president Josua Kabulevu said the group had had an immediate effect on other young people in the village. "They see us working with commitment and making some money but we make sure that the village is done and that each of our activities is managed by one of the members and that we report on our activities every week," Josua said. "The guys make sacrifices but these have started to pay off and now people ask us for help in setting up their own economic activities."

Josua has big plans for a piggery and small fisheries business to provide employment for other villagers. The ultimate goal is a supermarket to rival existing shops in Levuka. "The challenge is not to over-extend ourselves," Josua said.

"We have certain skills and can use those to plant crops which we know about and understand. But we must realise that there are short-term, middle and long-term projects and we can use the different crops to achieve our goals."

R&D Island Style

With kava prices soaring to record highs across the Pacific, the pressure is on growers to produce more in a shorter time.

But how do you increase crop yield while producing organic kava of sufficiently high quality to command top dollar at home and abroad? That's the challenge that faces many of the farmers who can see the potential for growth but cannot handle the demand from buyers and producers.
On Taveuni Island in Fiji's north, a dedicated group of farmers has decided to meet the challenge head on using modern business values but using low-cost material. Research and development for kava at the Tutu Rural Training Centre (TRTC) will benefit the entire Cakaudrove Province of which Taveuni is a part but the immediate beneficiaries will be trainee farmers.

The priest in charge of the Roman Catholic-operated centre, Father Aparama Petero Sanele, is first and foremost a son of the province and a farmer. "We try to develop methods of planting and of making organic fertiliser which is cost-effective and practical for people in rural areas," he said. "There's no use burdening our farmers with high fertiliser and nursery costs when they have material at their disposal to create from nature a superior product at low cost and for greater profit."

On a small portion of the 480 hectares of freehold land owned by the church and run by the Society of Mary, young men plant kava and dalo and learn basic skills which will help them manage their own farms. In the past, those skills were financial literacy, ethics and small engine repairs. Now they are also being taught to make organic fertiliser and grow kava in nurseries to ensure greater chances of survival once the plants are introduced to the field.

Under a large green shade cloth on benches hewn from local trees, hundreds of kava plants sprout from black plastic bags full of rich, black, moist soil. Packed full of goodness, these bags are what healthy energy bars are to athletes preparing for competition.

The Tutu mix comprises compost, moccuna beans, seaweed, fish meal and molasses. Mixed in large buckets or drums, the concoction is stirred every hour for 12 hours before it is diluted and applied to the soil in the kava plantation. It's also applied to the potting mix which is used in the Tutu nursery.

"We want to encourage our farmers to use these practical methods on their farms so they can reduce costs and practise sustainable planting methods," Fr Aparama said. "It's important that as stewards of God's creation we do everything possible to ensure that the environment is protected even if we use it for agriculture and to support livelihoods."
Built in 1969, Tutu also provides adult education training courses for married couples, usually with farming backgrounds. The centre is designed to provide a place where people of Cakaudrove are empowered to become more autonomous and take charge of their lives in a rapidly changing world, primarily in training them to return home to farm their own land.

A small dam high above the training centre provides water and hydro-electricity to the residents. That electricity also powers driers which ensure that kava planted on the property can be prepared for pounding or sale even in the wettest conditions. That's a huge advantage in an area where rain can fall three times a day and a farmer in the field cannot spare the time to cover his drying kava whenever the skies open.

The values taught at the centre also force trainees to think about techniques which put them ahead of the competition and provide examples in the community. "We've had some huge successes with our young farmers who have saved money, built homes in the villages and bought vehicles," Fr Aparama said. "If they do well other villagers are encouraged to follow that example and use the land for their self-development.

"Rural youth can earn good livelihoods from the farming of their own land. That's what we hope for. Not every trainee is successful and there are many reasons for that but by and large we have been able over the years to help improve lives." That improvement continues today as Tutu looks for new ways to revitalise the kava industry through methods which are innovative, sustainable, cost-effective and safe.

Over the years, the TRTC has been flexible and, to some degree, experimental in its approach to rural training. This has enabled the centre to make changes in its efforts to develop more effective programs to prepare for rural self-employment. The courses on offer today at the TRTC have evolved significantly from the original courses. The five courses now offered are the Young Farmers; Married Couples; Young Single Women; Parents and Village Courses.

The Tutu "experiment" has been highly successful in equipping young people to be successful farmers on their own land. The experience of Tutu has shown that that rural youth can earn good livelihoods from the farming of their own land.

Girmit Journey – From Copra to Kava

Ram Lochhan Singh arrived in Fiji 130 years ago and spent his period of indenture on Ura Estate, South Taveuni. Less than a kilometre from the copra plantation on which he served as a labourer, his descendants – Uma Sapra and her son Abhishek – spend their days tilling the soil and empowering the nearby villagers.

On 600 acres of rich farm land, the mother and son have carved out an organic plantation which produces kava, honey and virgin coconut oil. But most importantly, it offers an opportunity for economic freedom which Ram Lochan Singh could only have dreamed about more than a century ago.

Kalougata Farm exports around seven tonnes of pounded kava annually direct to the United States under strict Food and Drug Administration (FDA) guidelines. "We have to be very careful with our product to ensure that it is clean - there can be no room for error," Uma said. "Our farmers have strict controls – the variety to be planted, absence of any non-organic fertiliser, and spacing between plants. We must get it right to maintain the market."

Kalougata Farm provides its farmers with planting material, organic fertiliser, farm advice and even the land on which they plant – it's a one-stop shop. It also provides a sure market for the kava planted by villagers from Vuna, Navakawau and Qarawalu. This ensures a constant supply of product at the quality demanded by the buyer.

The Kalougata concept provides land to young men and women who are willing to plant and supply Uma and Abhishek with the kava needed for export. The farm also provides planting material and fertiliser for the farmers to create their own private farms away from Kalougata.

"Some of our young people left school and had nowhere to go, so this is an employment opportunity which they have taken and they've been successful," Uma said. "We are so proud of them, especially when our operations manager is just 19 years old and is responsible for running the whole operation from planting to packing."

When kava leaves the plantation it is organic, clean, pounded, packed and labelled. It is flown to the US for use in medicinal products and the kava bars which have sprung up along the West Coast.

Uma is confident that this is the future for Taveuni. "Kava has the potential to make a huge impact on the lives of young people on the island," she said. "If they can learn good (farming) habits and produce a high-quality product, the whole island can be self-sustaining and the people will be able to look after their own development."

For Uma the journey to sustainable, integrated farm practices, and operating a kava business is a world away from her previous life as a teacher and the wife of a diplomat.

After attending primary school on Taveuni, Uma was sent to Levuka Public School to board with relatives and prepare to attend Indian (now Jai Narayan) College in Suva. An Indian government scholarship took her to university in India where she met and later married medical student, Dr Sharad Sapra.

Over the years they would move around the world as Dr Sapra pursued a career with the United Nations Children's Fund, UNICEF, from which he retired this year. In 2014 Uma decided to return to Taveuni to care for her aged father and await her husband's retirement. It didn't take long for her to become a local philanthropist, leading citizen and farmers' advocate.

"I believe in talking straight, telling it like it is even if it's the Prime Minister, Attorney-General or Police Commissioner," Uma said as one of six pet parrots on the property flew in to observe proceedings. "Copra used to be the big industry here but prices have dropped and kava is doing well but it takes hard work for farmers to be successful. What we try to do is help the community become successful too so that everyone can benefit. Better income means improved lifestyles, healthier people, chances to study further."

The Kalougata Farm aims to offer free scholarships to young people – particularly women – next year to improve their lot in life. Uma's ultimate aim is to see Taveuni develop a strong, resilient economy with benefits which trickle down to every village and each resident. That means an island economy which is self-reliant and not dependent on the whims of bureaucrats and politicians for infrastructural and human development.

Meanwhile, her son Abhishek, concentrates on keeping the young people on the farm focussed on the task of ensuring that the operation is totally organic and chemical-free. Development of natural fertiliser, monitoring feed for the animals and methods of farming along with personal mentoring and leadership are his responsibility.

"The young people are keen to learn and they can see the benefits," Abhishek said while walking the farm hands through the chores of spreading fertiliser and pruning plants. "This is about handing on to the next generation, about us all appreciating what we have and then leaving the land behind better than it was given to us." His passion is contagious and as he talks his bright eyes, gaunt frame and animated gestures give Abhishek the look of a religious fanatic.

So; is this about faith?

"I suppose it's about believing there is a higher being – whether we find that in a church, in the temple or mosque – who gave us this earth and gave us each other," Abhishek said. "It's about living together, sharing knowledge and land and life, sharing the present and the future."

So 130 years after Ram Lochan Singh arrived on this fertile land as a slave, his family is ready to break the shackles which have stopped development for more than a century.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Looking for Greener Pastures

The growing demand for kava on the international market has put added strain on exporters who aim to provide a consistent, high quality product. Taki Mai – sold in capsule, powder and ready-to-drink variants by the Levuka-based South Pacific Elixirs – is hugely popular on the United States' east coast. Its product is used as a herbal remedy, as an infusion for coffee and cocktails or straight out of the bottle.

But Taki Mai's producers demand strict cleaning processes from farmers and kava which is at least three years old, well dried and disease-free. That stringent quality control which is so important in order to penetrate the USA market, satisfy FDA guidelines and ensure sustainability, can be hard for farmers to understand. Indeed, there is a portion of the Levuka farming community on Ovalau Island which has displayed a reluctance to provide supplies to the Taki Mai factory. This has led to a drop in factory output and exports.

Zane Yoshida owns and operates South Pacific Elixirs and Taki Mai just a stone's throw from the family home. "As an exporter, it's critical that our product meets food safety and quarantine guidelines and even more importantly that our Taki Mai brand is consistent in taste and strength," Yoshida said. "We cannot afford for the quality levels to fall. Taki Mai has created a position in the market and we need to maintain the level of quality our customers expect."

That means pressure on the suppliers and farmers to provide a consistent product from the time the first plant goes into the ground until the day it reaches the factory. Yoshida believes some of the responsibility for providing consistent material rests with the farmers.

"Of course, we are in this together – farmer and producer – so each has a part to play," he said. "We all stand to gain or lose, therefore we are equally responsible for the quality of the product. That includes even planting the kava species which our drinkers want."

Taki Mai is a high-end product, earning top dollar in the USA market because of the niche created by Yoshida's marketing team. That means, however, that farmers want a greater share of the final price and demand higher gate prices from the producers without considering the processing costs.

At the Taki Mai factory, dried kava root is cleaned, dried, minced, pounded and ground into a powder which dissolves in water. The kava also goes through a moisture extraction process. The factory processes and the quality packaging – in hard plastic bottles, vacuum packs and in capsules – are additional costs which the farmers do not bear.

Due to relevant support from the stakeholders and partners, there has been much improvement regarding sales and export of these products.

Their reluctance to supply kava to Taki Mai means the company has been forced to consider the option of farming its own crop. This started two years ago with the development of a nursery. Yoshida said that through the nursery, quality control was ensured and the company could provide its farms – and farmers who want to join their program – with disease-free, sturdy planting material. "We also want to identify high yielding varieties which will give the factory higher efficiency and earn larger profits," Yoshida said.

The company has identified land on Ovalau within driving distance of the factory and hopes to develop a kava farm which will feed the processing operation a steady, consistent supply. Taki Mai has also started to reach out to reluctant farmers to educate them about the process of supplying overseas markets with quality kava.

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Yoshida's ultimate aim is to turn Ovalau into a closed economy which plants and processes kava for the local and overseas market in an efficient manner ensuring the highest possible returns for locals. Lomaiviti Province and Ovalau account for around 10 per cent of Fiji's estimated number of kava farmers who export up to USD three million annually.

Ovalau has a population of around 5,000 people of which about 2,000 are subsistence farmers – 1,000 of them involved in some cultivation of kava. Taki Mai estimates that it needs at least 200 farmers planting 3,000 kava plants a year in order to meet its local and foreign demands.

"I think if we can all understand the process better the members of the Ovalau community will be able to help themselves help each other and grow the island economy," Yoshida said.

With the island's main income and employment provider – the local fishing factory – facing difficult economic times, kava may be a real alternative. But Yoshida knows that for that to happen there must be a tremendous amount of goodwill and a desire to learn the importance of consistent, quality products.

ANNEX 8

Annex 8
Interview Guide

Interview Guide

The Value Chain Analysis will be conducted at all levels of the yaqona chain, i.e. farmers, middlemen, processors, exporters and consumers.

The Interview Guide is also designed to:

- Capture the type of activities and participation of women, the hidden roles women play in the various levels of the value chain, the constraints and the opportunities that hold them back from participating in the male-dominated yaqona Industry
- Identify the roles of primary and supporting actors
- Identify market channels and trends within the yaqona value chain
- Identify constraints and opportunities that hold back growth and competitiveness at the different levels of the yaqona value chain

For reliability of information, women at various levels of the yaqona value chain must also be interviewed. At household level, the role of women, type of activity and participation should be captured from major respondents or women/wives/ family members themselves.

Respondent Information

Name/Firm Name	
Contact	
Address	
Principal Product or Service	
Total Farm Area/# of yaqona plants	
Interview Date	
Interview Date	

Market Access, Trends and Governance

- To whom do you sell your yaqona (external buyers, large firms, small firms, wholesalers, middlemen, exporters, retailers, consumers etc.)? If sold to more than one buyer what percentage is sold to each?
- What do you see as your main constraint, needs/opportunities in accessing markets?
- Describe the relationships you have with your buyers (who determines what to produce, product specifications, prices and amount purchased)? How much input do you have in negotiating any of the above?
- How do you promote and market your product and services?
- How strong is the market for yaqona right now? Last year and next year? What trends are you anticipating?

Kava sales:

a. What is the price you receive for yaqona right now? (May 2014 – May 2017
b. How much did you sell?

Can you assess what your performance is in the value chain in meeting demand (score 1-5) on:

- Quality
- Packaging
- Volume
- Price offered
- Please explain your answers
- Are some customers, groups/buyers better than others i.e. in terms of price/ sales & revenue growth? Which ones and why?
- Do you ever collaborate with others on promotion or marketing your yaqona? Please explain if yes or no.
- Who are your major competitors?
- How do you communicate information about your frim/product/ farm to others?

Standards and Certification

- What standards or certification requirements do your yaqona products need to conform to before you sell or export?
- Who sets these standards and requirements?
- Who helps you to conform to these standards and requirements
- Do you have any problems with meeting these standards or requirements for yaqona products?

Technology/Product Development

- What are your major needs/opportunities in processing/packaging yaqona?
- What other products do you sell/produce? What percentage of your total revenue does each product represent?
- What have you done recently to improve the quality/volume of your yaqona product/service?
- What kind of machinery/equipment could improve y our product/business/ volume of production /farm?
- Do people who work with you need training? If so, what type of training?

Management/Organisation

- What are your major needs/opportunities in the area of organisation and management?
- Who does most of the work in the general management of your firm/product & design, purchasing of yaqona from farmers, shipping, processing of yaqona, marketing etc?
- Do you outsource any functions or any levels of work related to yaqona?
- Do you sometimes collaborate with other firms/farmers to produce and deliver customers' orders?
- Which aspects of your business/ farm do you intend to change in the next 2 years (land, yaqona specie, machinery, equipment, management skills, farming skills, workers skills, new products etc.)?
- What management skills would you like to strengthen in order to expand your production /business?

Yaqona Supply

- What are your major needs/opportunities in yaqona cost, quality and availability?
- Who are your most important yaqona suppliers and what type of yaqona do you buy from each supplier?
- Are there problems in getting greed on dried yaqona? Explain.
- Have you ever purchased yaqona jointly with other buyers/farmers?

Finance

- Where do you get money for your business/farm?
- Do you get production financing from your buyers? What are the terms?
- Do you need additional financing? If so, what would it be used for?
- Have you approached any banks/financial institutions for loans, and what have been the key problems?

Policy/Regulation

- What government policies/regulations benefit your business/farm (registration, inspections) etc?
- What government policies/regulations are obstacles to growing your business/ yaqona farming?

Infrastructure

- What are the most important infrastructure constraints affecting your business as a yaqona buyer/ exporters or farmer (road, transport conditions, communication service, electricity supply, crime/corruption, theft, storage etc.)?
- Has MoA/other government agencies/yaqona organisations done anything about these problems?

Membership Organisations

- Is your sector/area represented by any association? If so, please provide name.
- Are you a member? If not, why?
- What are the primary functions and benefits of these associations?
- What additional services should they provide?

Yaqona Farmer

- Are you able to meet current market demand from buyers?
- What are your major current needs as a farmer to improve your level of production (land, finance, equipment, manure, stems, young plants for replanting etc.)?
- What other major problems do you face as a yaqona farmer in your area?
- What type of costs will you have to pay to improve your production and your supply to buyers/markets and users? How much for each activity?
- What are you currently doing to improve your volume of yaqona production (solesolevaki, farm house in farm area, new species, nursery, manure etc.)
- What would be the most immediate assistance that you require to improve your yaqona farm or production?
- What activity/role does your wife/female family member/s do (planting, harvesting, cleaning, drying, sorting, selling etc.)?

Extra Open-Ended Questions for Women

- How can the role of women be improved to support or enhance growth in yaqona production?
- What is/are the greatest challenge(s) for Women in yaqona industry (limitations, risks)?
- Are you able/do you make decisions at any level of the yaqona value chain? If no why? If yes, explain how your decision has benefited your business/family at any level of the yaqona value chain.
- What are the strengths and opportunities of your role?
- What are the weaknesses and threats of your role?