

Kava Value Chain, Gender Equality and Social Inclusion Analysis

TECHNICAL REPORT

#130



Kava Value Chain, Gender Equality and Social Inclusion Analysis
TR#130

Client: Department of Foreign Affairs and Trade
ABN: 47 065 634 525

Prepared by
AECOM Services Pty Ltd Brisbane
Level 8, 540 Wickham Street Fortitude Valley, QLD 4006 Australia
T +61 7 3553 2000
F +61 7 3553 2050
www.aecom.com

ABN 46 000 691 690

2018

Job No.: 42444251

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Quality Information

Date	March 2018
Prepared by	David Young, Carol Nelson and Peter Napwatt
Reviewed by	Semy Siakimotu (Deputy Team Leader) and Di Barr (Team Leader)

Revision History				
Rev	Revision Date	Details	Authorised	
			Name/ Position	Signature
1	20 March 2018	Final	Stephanie Symon PHAMA Operations Manager	

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Acronym List

Acronym	Description
DARD	Department of Agriculture and Rural Development
EU	European Union
GESI	Gender Equity and Social Inclusion
KIWG	Kava Industry Working Group
MALFFB	Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity
PHAMA	Pacific Horticultural and Agricultural Market Access
PICs	Pacific Island Countries
SPC	Secretariat of the Pacific Community
TVET	Technical and vocational education and training
USA	United States of America
VANWODS	Vanuatu Women's Development Agency
VCCI	Vanuatu Chamber of Commerce and Industry
VCMB	Vanuatu Commodities Marketing Board
VKIA	Vanuatu Kava Industry Association
VMAWG	Vanuatu Market Access Working Group
VNBS	Vanuatu National Bureau of Standards

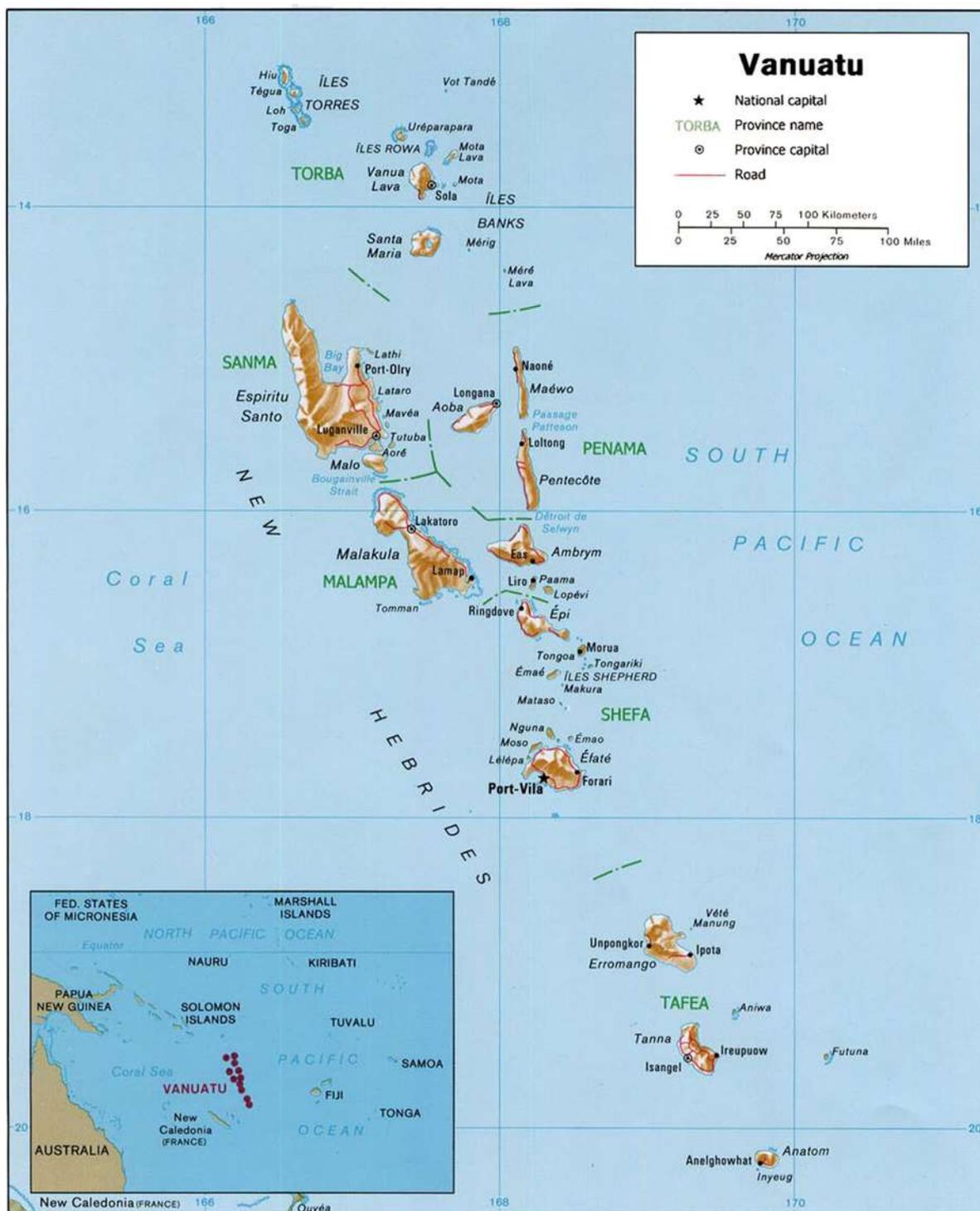
EXCHANGE RATES (July 2017)

Vatu (VUV) 100 = Australian Dollars (AUD) 1.20

Vatu (VUV) 100 = New Zealand Dollars (NZD) 1.26

Vatu (VUV) 100 = US Dollars (USD) 0.92

Map of Vanuatu



Executive Summary

Kava is an important agricultural commodity for Vanuatu for a range of cultural, social and economic reasons. It is one of the most important cash crops grown in rural areas as well as employing large numbers of people in kava trade and retail (“nakamal”) operations. Kava is widely consumed in Vanuatu but is also exported in significant quantities for use as a beverage in other Pacific Island countries. There is also a market for kava as herbal medicine, an alternative to pharmaceutical sleeping and anti-anxiety medication, which has significant market value internationally. Domestic and export marketing conditions are currently buoyant, but there have been market access problems in the past due to concerns about the safety of the product and deficiencies in the quality control and regulatory systems.

There are a number of different kava marketing pathways but the great majority of kava produced in Vanuatu passes through one of three channels. In each channel, the initial steps include harvesting, transport of the kava to the village by hand carrying or packhorses and washing, trimming, sorting and bagging the kava in the village. Thereafter the kava enters one of the three main channels each of which has a number of minor variants: (i) the local/rural marketing pathway; (ii) the urban marketing pathway; and (iii) the export marketing pathway.

There are long-term up-trends in the number of kava growers, crop areas and denser plant populations. Almost 18,000 households currently grow kava with total production capacity in the range of 32,000 – 35,000 tonnes fresh weight. However, production is currently below the estimated long-run capacity due to the after-effects of cyclone Pam and the drought which followed it. This has caused serious shortages and soaring prices.

Vanuatu is the leading kava exporter in both volume and value terms, and exports have long been considered an important part of the kava industry. Despite the current shortages, exports reached 1,052 tonnes (dry weight) in 2016 and a new record of over 1,500 tonnes could be reached in 2017. Fiji and New Caledonia have consistently been the main export markets, and during the last five years have accounted for over 60% of the total, with USA and Kiribati making up most of the remainder. Exports to Europe have not resumed in any significant way since the lifting of the EU import ban in 2015.

The Vanuatu kava industry can be considered in two sub-sectors. There are 12 “noble” kava varieties which are considered safe to consume and are approved under the Kava Act for both domestic and export sale. All of the many other varieties are regarded as un-safe and can be grown for personal use but the Act prohibits their sale in domestic or export marketing channels.

Domestic consumption is estimated to account for 70-73% of the kava available (after shrinkage, losses and waste) with exports utilising the remainder. The gross value of sales under “normal” conditions (i.e. not cyclone or drought affected) are estimated in the range of VUV 46-52 billion (USD 430-480 million) of which exports account for only 3-4%. Overall, it is estimated that some 20,000 to 25,000 household in Vanuatu are engaged in some part of the kava value chain. This represents around 35%-45% of all households, most of whom are kava growers. In the major kava-growing areas almost all rural households use kava as their principal source of cash income.

The support provided by PHAMA over the last few years in developing quality standards and raising awareness about their importance, as well as its support for the Kava Industry Working Group, is seen as highly relevant to the future prosperity of the industry. Analysis of the value chain including its gender and social inclusion aspects confirms that kava is one of Vanuatu’s most important agricultural commodities, which is already generating substantial social and economic benefits for rural communities, and has the potential for further development.

Notwithstanding the fact that the domestic market currently generates most of the revenue from kava, the future of the industry will be heavily dependent on the expansion of exports.

Exports are currently running at all-time highs. However, short-term supply shortages related to the recent hurricane and drought combined with strong domestic demand has produced soaring prices, making it difficult

for the exporters to operate in the regional and USA markets, and all report that they are unable to fill their export orders due to domestic supply and price constraints, as well as product quality limitations.

With the supply of kava expected to normalise in the next 2-3 years domestic prices are likely to ease, providing some relief to exporters and nakamal operators. However, kava production will remain very attractive for growers, as it has been for several decades. Even so, given the vulnerability of the crop to cyclones and droughts and the likelihood that the frequency and severity of such events will increase over time, instability is likely to be a continuing feature of the kava sector.

Regardless of the underlying supply fluctuations, there is a need to fast-track implementation of the measures already in place under the Kava Act and the National Quality Standards to assure the quality and safety of kava in both domestic and export markets. This calls for significant new investment to strengthen the capacity of the regulatory framework, and to accelerate the propagation and planting of the approved (noble) kava varieties.

A broad strategic framework for the sector is already in place under the Kava Strategy. However, its implementation is constrained by the lack of funding and the need for a more effective institutional, legal and regulatory framework. The key recommendation arising from the study is therefore to prepare a fully costed kava industry development programme, based on the existing kava strategy and the priorities identified in this study, and to then seek funding for its implementation. The key elements of such a programme may include some or all of the following:

- Expansion of nurseries in the main kava producing areas for propagation and planting of approved (noble) varieties.
- Improvements in rural infrastructure 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, traders, nursery operators and agents.
- Measures to facilitate and encourage social inclusion in the kava value chain, specifically the participation of women in higher level value-adding activities, as well as reinforcing their current roles in producing and processing kava.
- Routine monitoring of kava planting and the inventory of existing plantations by age and variety, including post drought and post cyclone surveys.
- Institutional reform, to resolve current ambiguities in the legal and regulatory framework, and especially to ensure that the export levy is used for the direct benefit of the kava industry.
- Measures to mitigate potentially negative social consequences of measures to boost kava production including reduced food security, land disputes, excessive kava consumption, and poor household financial management.

1. Introduction

1.1 Overview

PHAMA is an Australian 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 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. 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 in Vanuatu

PHAMA's work in Vanuatu is based on a number of Industry Working Groups (IWGs) working under the umbrella of the Vanuatu Market Access Working Group (VMAWG) which guides all PHAMA activities in the country. PHAMA has established IWGs for beef, cocoa, and kava. IWGs represent the first attempt to bring together participants from the private and public sectors to further the strategic development of their respective industries. IWGs assess and prioritise PHAMA support required and their value is being recognised by government and development partners. In the future, further development of these groups into robust and sustainable industry bodies is a key focus for PHAMA.

In accordance with its mandate, PHAMA's support for the kava industry focuses on market access issues. The main concern in this regard is overseas regulatory authorities which have imposed restrictions or bans on kava imports due to concerns about its potential toxicity. This applies particularly to varieties known as "*tudei*"¹ kava as opposed to the "noble" varieties which are generally regarded as safe for both beverage consumption and use in herbal medicines.

By helping to improve quality and distinguishing between different kava varieties, PHAMA aims to reduce the risk of restriction or closure of export market access. PHAMA also aims to help farmers and exporters get better prices and increase export volumes, and potentially examine new products for development. The main activities undertaken by PHAMA in the kava sector are as follows:

- **Awareness Materials:** PHAMA has provided assistance in the development of kava quality awareness materials for distribution to farmers throughout the country. These materials have since been simplified to be used by farmers in the field.
- **Quality Testing:** PHAMA has provided assistance towards research into field testing tools to assist with quality control and help distinguish between noble and other varieties of kava. The testing methodology has recently been scientifically peer reviewed and validated and exporters and Government staff have been trained in its use.
- **Quality Standards:** PHAMA supported the development of appropriate quality standards and procedures as part of a national kava standard underpinned by the amended Government Kava Act. The standard was developed in both English and Bislama.
- **Awareness and information sessions to support the implementation of the quality standards.** Through the support of the PHAMA program, representatives from the Kava IWG were able to travel to the kava communities in Ambrym, Pentecost and Santo to discuss and provide information on the roll out of the standard and implementation of the Amended Kava Act. These sessions included information on the program's support to provide planter bags to the Department of Agriculture and Rural Development (DARD) to facilitate and improve access to nursery and planting materials.
- **Industry Development:** PHAMA is also promoting collective action in the industry. It helped establish a Kava IWG, which brings representatives of the private and public sectors together. They then

¹ *Tudei* is a Bislama term meaning two-day, which is said to be the duration of the effect from drinking this variety.

collaborate on identifying priority market access issues and developing an industry strategy to guide future assistance by PHAMA, government and other donor programs. The IWG has recently been incorporated as an industry association.

1.3 Objectives and Expected Outcomes

Activity Objective: to describe the kava value chain in Vanuatu and analyse gender equity and social inclusion (GESI), economic, and key issues for the kava industry.

Expected Short-Term Outcome: Improve the understanding of the value chain for kava and kava products and associated benefits and issues, and qualify the impact of PHAMA's interventions. Identify the role of men and women in the value chain; how they benefit from their participation in it; and any possible entry points to increase the incomes of value chain participants and to women.

Expected Longer Term Outcome: Improve the effectiveness, equity and outreach of the PHAMA program through its current activities and subsequent interventions on kava. Contribute to greater understanding of the role of the kava industry in Vanuatu, its economic and social impact and options for the greater participation of women. The outcomes from this activity will be used to guide the planning of PHAMA activities to actively include gender equality and ensure the participation of women in the value chain as essential components of poverty reduction and economic growth.

1.4 Study Methodology

The study was undertaken by two international consultants and one national consultant:

David Young International Agribusiness Specialist
Carol Nelson International Gender Specialist
Peter Napwatt Cultural and Liaison Officer

Logistical support and guidance was provided by Dr Rebecca Bogiri (PHAMA National Coordinator, Vanuatu). According to the terms of reference, the scope of work included:

- Review and collate existing information on the kava value chain; including current production and trade of kava and value-added kava products in domestic and export markets; and gender and social aspects of the kava industry.
- Identify relevant participants in the value chain and other relevant stakeholders, and propose a scope and approach for mapping of the value chain and for engagement with stakeholders, including data sources to be sought, the key questions to be considered and method for information collection. Consideration will be given to the various products and business models associated with the kava industry.
- Map the value chain structure, economic value, pricing structure, levels of resource holder participation and employment, challenges and barriers faced by participants for both domestic and export markets; and assess the economic impact (in terms of export returns, pricing changes, levels of employment and household incomes maintained or increased) of the interventions PHAMA has made to maintain access, and improve quality of kava exports.
- Undertake desktop research on international market opportunities for kava and kava-related products, including (to the extent possible) communications with overseas buyers. Make recommendations on any opportunities for value chain improvements, growth and diversification.
- Where possible identify opportunities to generate additional income or profitability from kava and kava products which may be considered for implementation by PHAMA, industry and other partners, including an assessment of the potential for improved pricing based on the export of higher quality kava. Such recommendations relating to PHAMA shall take account of its design scope and resourcing constraints.
- Following the significant disruption in kava supply from Cyclone Pam, determine the relative attractiveness of exporting kava versus selling on the local market, and comment upon how market dynamics are expected to change in the short to medium term (1-3 years).

- Determine the different roles of men and women across the value chain; how they benefit from their involvement in the value chain or from the income derived; their needs and motivations; what are challenges and barriers to their increased participation in these value chains; what support (e.g. inputs, equipment, skills/training, finance) they have received from government, donor projects and the private sector; and any constraints to accessing/benefiting from support programs. For women who are involved in the value chain, it would be useful to confirm their capacity as decision makers and on what aspects of the value chain (land, finance and division of labour etc).
- Where possible identify opportunities, and recommend potential entry points for PHAMA or other development partners to strengthen the role women play in the value chain and promote greater economic empowerment. Such recommendations relating to PHAMA shall take account of its design scope and resourcing constraints.

The Cultural and Liaison Officer assisted in planning the analytical framework and approach for the work, including identification of relevant participants in the kava value chains and other stakeholders, and proposing a scope and approach for engagement including the key questions to be considered and information being sought (information on respective roles, who does what; who has what; who decides and how; who gains; who loses; what are the challenges/obstacles etc). The Liaison Officer, in consultation with the National Coordinator, organised meetings and logistical support (meeting times, transportation, venues) with key stakeholders such as representatives of the Kava IWG, traders, exporters, processors, nakamal operators, Government partners, and kava growers in the main kava producing islands of Santo and Pentecost. The Liaison Officer travelled with the team to facilitate meetings, and provided advice on data sources.

The work was undertaken during two missions to Vanuatu by the Gender Specialist and one mission by the Agribusiness Specialist, both of which were supported and facilitated by the National Specialist and the PHAMA Coordinator. The first mission took place in April-May 2017 and involved consultations in Port Vila and field work in Pentecost. The second mission was in July 2017 and involved one week of field work in Santo and one week of stakeholder consultations in Port Vila. The team provided briefings on its initial findings to DFAT and MFAT on 18th July 2017.

2. Background

2.1 General

Kava is an important agricultural commodity for Vanuatu for a range of cultural, social and economic reasons. It is one of the most important cash crops grown in rural areas as well as employing large numbers of people in kava trade and retail (“nakamal”) operations. Kava is widely consumed in Vanuatu but is also exported in significant quantities to countries like Fiji, New Caledonia, Kiribati and USA and the European Union. Kava is traditionally consumed as a beverage diluted with water. There is also a market for kava as herbal medicine², an alternative to pharmaceutical sleeping and anti-anxiety medication, which has significant market value internationally.

Through the PHAMA program, significant progress has been made on activities to support the needs of the kava industry in Vanuatu including the development of quality standards and associated tests to assist in managing market access related risks around the type of kava sold and exported. The first step was to bring the various government and private sector stakeholders together to form a Kava Industry Working Group (KIWG). PHAMA provided support to the KIWG to develop an industry strategy outlining priority areas for development. A priority for the industry was the need to rebuild the image of kava following a ban on kava imports imposed by the European Union in 2002 due to concern over perceived health risks, specifically liver toxicity. The EU ban was lifted in 2015 following research that showed no health risks, but had a devastating effect on exports of kava to the EU which in the late 1990’s and early 2000’s had grown substantially.

More recently, market access issues relate to quality and the need to establish product standards and quality assurance systems to underpin kava exports which is essential in maintaining access to the regional (PIC) markets as well as the US, EU, New Zealand, etc.

Based on the reported number of households and farms involved in the production of kava in Vanuatu, it is considered that PHAMA interventions on kava have impacted positively in these communities by assisting to maintain market access and strengthening Vanuatu’s trade position. However, there is limited detailed current information available on the value chain and on aspects such as gender equity and social inclusion (GESI). This makes analysis of economic impacts from PHAMA’s work to date, difficult. It also means that there is a lack of hard information to inform decisions about the future of the kava industry generally. This study is intended to address those data gaps.

2.2 The Agricultural Sector Policy

Development of the kava industry is an important element of the Vanuatu Agricultural Sector Policy which covers the period 2015-2030. The Policy recognises that Vanuatu is an agriculture based economy in which 80% of the population depends entirely on subsistence agriculture for their daily sustenance and well-being. Although the other 20% reside in the urban areas, most still rely on agricultural products from rural areas for their daily source of nutrients. The primary sector (comprising agriculture, livestock, fisheries and forestry) accounts for 20% of GDP.

The Sector Policy considers the agricultural sector in three sub-sectors: with the subsistence sub-sector accounting for more than 75%, a growing semi-commercial sector contributing around 15%, and commercial agriculture around 10%. The subsistence sub-sector is based on root crops (taro, yam, cassava and sweet potato) and characterised by labour-intensive methods and total reliance on rainfall and rudimentary implements/tools. The bulk of semi-commercial agricultural activities are concentrated near urban centres where high population growth rates, tourism, and high rates of urban unemployment are able to sustain a growing market for food crops. The commercial subsector is dominated by four cash crops: 69% of ni-Vanuatu households are engaged in coconut production, 50% in kava, 24% cocoa production and 2% in coffee.

² 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.

Development of the Agricultural Sector Policy involved extensive stakeholder consultations over a five-year period. This process identified 17 main constraints and issues as follows:

1. Absence of an appropriate policy for the agricultural sector.
2. Difficulties for access to trade and marketing opportunities.
3. Diversification of food and cash crops.
4. High cost of shipping.
5. Lack of proper infrastructure.
6. Poor participation of government stakeholders.
7. Low level of input by private sector and civil society.
8. Limited access to financial institutions.
9. Ineffective coordination of farmer activities.
10. Lack of competent authority for promoting commodities.
11. Inability to engage Vanuatu's youth in farming activities.
12. Prevalence of poor farming practices.
13. The gradual decline in the number of farmers.
14. Lack of information for accessing credit.
15. Inability to expand business enterprise.
16. Land disputes.
17. Loss of prime agricultural land.

The vision of the Policy is: Agricultural food and cash crops of Vanuatu are sustainably and profitably managed, contributing to sustainable development for the wellbeing of all people in Vanuatu by 2030.

The goal is: The nation's agricultural resources are managed in an integrated and sustainable manner to provide food and improved incomes as well as contribute to environmental and social services to enhance wellbeing of all people in Vanuatu. The Policy includes 13 thematic areas, each of which is underpinned by one or more policy objectives:

Thematic Area	Policy Objectives
1. Institutional Setup and Compliance	<ul style="list-style-type: none"> • Orderly agricultural sector
2. Extension and Training	<ul style="list-style-type: none"> • Qualified and competent agricultural workforce • Widespread coverage of agriculture information
3. Finance	<ul style="list-style-type: none"> • Accessible agriculture credit
4. Agriculture Land Use	<ul style="list-style-type: none"> • Land appropriately allocated according to land use policy
5. Agriculture Investment	<ul style="list-style-type: none"> • Agriculture sector the leading domestic and foreign direct investment option
6. Research and Development	<ul style="list-style-type: none"> • Quality and productive agriculture produce
7. Planting Materials, Tools and Agricultural Inputs	<ul style="list-style-type: none"> • Agricultural seeds, planting materials and inputs readily available and accessible
8. Environmental Protection and Sustainable Farming	<ul style="list-style-type: none"> • Environmentally friendly agriculture • Agriculture soils improved and conserved
9. Production and Market Access	<ul style="list-style-type: none"> • Sufficient and surplus agriculture outputs • Stakeholders income and revenue base increased
10. Food Security	<ul style="list-style-type: none"> • Food and nutrition security needs of Vanuatu adequately met by all stakeholders
11. Employment	<ul style="list-style-type: none"> • Agriculture sector the most attractive national employer
12. Climate Variability, Climate Change and Disaster Risk Reduction	<ul style="list-style-type: none"> • Disaster and climate-resilient agriculture
13. Gender and Vulnerable Groups	<ul style="list-style-type: none"> • Equal opportunities in agriculture development

The Agricultural Sector Policy is a generic/overarching policy framework which does not identify policies or objectives for specific commodities. However, in the case of kava, these are addressed by the Kava Strategy which is reviewed in the following section.

2.3 Vanuatu National Kava Strategy

The Kava Strategy (2015-2025) was developed in response to the overarching National Agriculture Sector Policy. It is based on the most recent census figures (2009) which showed that some 74% of Vanuatu households live in rural areas, and of these 56% were involved with some level of kava production. Kava is a crop that rural communities are familiar with and can be viewed as a cash crop whose production can be increased quickly with the right incentives and motivation. The approach to developing the Kava Strategy was based on four considerations:

- The need to develop an industry framework to drive and formalise the sector to ensure sustainability, quality, marketing and production requirements are met. Real leadership is needed to focus the nation's energy and developmental impetus and to drive the changes required at the national level, to take kava production to the next level.
- The need to challenge the perception of farming as an employment of last resort, a sector left for those that cannot succeed academically. Farming, especially being a kava farmer, must be marketed as being an honourable profession.
- More emphasis should be given to training farmers. Not only in understanding what they are doing and why they do it, but also in advocating the concept of treating farming as their work (or a career) and their need to be trained in time management, basic business skills, record keeping and planning, etc.
- It is now time to act on all the information available to the kava sector. Sufficient research has been done and stakeholders are aware of what needs to be done to elevate the kava industry to the next level that meets quality requirements and increased and sustainable production.

Formulation of the Kava Strategy involved a value chain analysis which identified four main areas where value is added: (i) propagation of planting material (sourcing and preparation); (ii) planting and maintenance of kava; (iii) processing and value adding; and (iv) marketing and trade of kava.

A matrix developed following the National Kava Forum in November 2012 identified the major challenges facing the industry. The four major themes identified in the matrix are:

- **Key Issue 1:** Increased and sustainable production is insufficient.
- **Key Issue 2:** Vanuatu must increase its market outlets overseas.
- **Key Issue 3:** Vanuatu is producing very poor quality kava and it must immediately develop and institute systems to address this problem.
- **Key Issue 4:** Policies are not conducive to industry growth.

Provincial consultations validated a lot of the issues outlined in the matrix, and the focus of the strategy is to weave the issues of quality and quantity into each part of the value chain and to see that the strategies are implemented to ensure that quality is improved and planting increased. A consistent theme running through the various interventions has been the effort to instil "quality" in the various processes. The lack of consistency in supply (both for the local and export markets) can be attributed to its use as a cash crop to meet certain immediate needs.

The Strategy focusses on the issues and challenges at each step in the value chain, and outlines proposed solutions and those responsible for providing the solutions, with the aim of creating a kava Industry that is of high quality and can consistently supply its markets. The vision of the Strategy is "to be the leading producer of quality kava in the region and the world." There are five strategic objectives:

1. Develop and imbed quality consciousness throughout the industry. Provide the necessary framework to develop, instil, implement and monitor quality standards in all facets of the kava value chain. Ensure that quality standards meet international requirements and imbed quality consciousness through all facets of the industry.
2. Develop and establish a nationwide planting program to ensure consistent and sustainable supply. Provide the framework to ensure an increase in kava production to consistently meet local and export demand. Planting, planting and more planting of noble varieties.

3. Engaging the market. Develop the framework that ensures that kava produced meets internal and external market expectations and encourage value adding.
4. Embrace the future by being proactive now. Ensure that Vanuatu is at the forefront of research and development issues for kava. Do things differently now to take advantage of new opportunities or create new opportunities.
5. Develop the regulatory framework. (Supplementary Objective) Provide the legislative framework to ensure the establishment of a formal kava industry with clear regulations and procedures on how the industry is developed to achieve stated vision and means for developing standalone support institution.

The Strategy proposes that these five strategic objectives should be addressed through four value chain steps:

Value Chain Step 1: Nursery Establishment and Management

Quality kava stock depends on quality planting material. The primary issue to be resolved is the procurement of planting materials which must be from desirable cultivars with good drinking characteristics, and cuttings must be from healthy and vigorous plants. The key issues to be addressed in relation to kava quality are: (i) How can Vanuatu ensure that it produces what the market wants? (ii) Does the market demand noble varieties only? (iii) How relevant is the Kava Act, are farmers aware of it and is it being policed? and (iv) What can farmers do to improve quality?

It is noted that kavalactone content appears to be greatly determined by the growing conditions, either by the local environment or by the agricultural techniques used. Consequently, the selection of varieties and planting areas contributes directly to quality. It is important to ensure that sufficient planting materials of the desired varieties and quality are produced. The process of getting good quality kava starts from selecting good planting material as well as training and facilitating farmers' access to credit. The Kava Strategy process found that there is very limited training being done. Some basic recommendations on planting materials and cropping methods are given in Box 1.

Box 1: Basic Recommendations on Planting Materials and Cropping Methods	
Planting Material Checklist	Cropping Methods
<ul style="list-style-type: none"> • Carefully select planting material from vigorous healthy plants. • Carefully inspect stems selected for cuttings to ensure they are free from mealy bugs and scale insects. • Use the more rot-resistant woody mid-portion of the stem for good root and crop development • Avoid using the soft upper portion of the stem because it is prone to rot and does not easily develop roots and shoots. • Do not use lateral branches for planting plants with horizontal stems. • Do not buy planting material from unknown sources because it may carry plant diseases or may be of poor drinking quality. 	<ul style="list-style-type: none"> • Kava can be grown as a single crop (mono-cropping) or with another crop (inter-cropping). Mono-cropping is not recommended as it can lead to severe disease problems and reduce production levels. • Inter-cropping is a better technique because food or cash crops can be grown at the same time as the kava and the other plants can help protect the kava from weeds, pests and wind and provide shade. • After harvesting kava, the area should be rested for at least three years. • While the soil is resting you can grow plants like Glycine which are legumes. These plants can nourish the soil fixing nitrogen and stop the bush or weeds from returning.

Aside from the common issues around access to planting material and appropriate cropping methods, climate change is also affecting the viability and resilience of the noble varieties to withstand the harsh environmental conditions. To address these issues, research is needed to assess the hardiness of the different varieties under various conditions and to develop agronomic methods that will make the crop more resilient to dry spells.

Value Chain Step 2: Plantation Establishment and Management

The most common plantation establishment method is direct planting of cuttings in the crop field. The majority of smaller farmers use mixed cropping whilst the larger farmers tend to mono-crop. For the

subsistence farmer, mixed cropping tends to be more effective in providing cash flow. However, most small farmers lack the capital to invest in larger plantations. The majority of the kava holdings are small in nature and this raises questions as to what can be done to encourage more people to plant kava. Access to land has to be made easier especially for those that may want to plant kava but do not have access.

Meanwhile, the demand for kava continues to be greater than supply as local consumption increases and export demand grows. There is a lack of government support for the sector, access to finance by growers is very limited, and kava grower's associations are weak or non-existent. The decision to use noble or other varieties still rests with farmers and protocols need to be established to ensure that varieties are clearly identified from propagation to harvest to ensure that non-noble varieties are not sold as noble. Consultations during preparation of the Kava Strategy also revealed that most farmers do not follow a formal/systematic planting/replanting programme to ensure consistency of supply.

Value Chain Step 3: Kava Processing and Value Adding

This step addresses the need to improve quality control during harvesting, processing and packaging. Ensuring that kava is harvested in the proper manner and that the harvested material is treated correctly will ensure that the desired quality is maintained. The issues that need to be addressed revolve around standardising the processing of kava to ensure that it meets market requirements. Priorities include:

- Ensuring that information on best practice methods of how to process kava for the local and export market are disseminated.
- Enforcing compliance of best practice.
- Quality Standards translated into Bislama and training carried out to teach farmers on best methods.
- Facilitating construction and distribution of materials for kava dryers. The cocoa solar dryer design that PHAMA funded and trialed in the Solomon Islands and Vanuatu could be used to dry the kava plant parts including kava chips.
- Facilitating distribution and understanding of relevant Codex standards for kava - especially the impact on farmers if the product does not meet the standards.
- Facilitating acquisition and distribution of equipment to analyse kavalactone, moisture and ash content.
- Considering inclusion of quality standards in the amended Kava Act.
- Promoting the processing and value addition of noble kava varieties by only issuing kava licenses to companies that comply with regulations.
- Assisting kava processors by facilitating import of machinery and equipment with VAT and duty exemption.
- Assisting kava processors to diversify into other kava products such as powder, juice etc.
- Facilitating provision of cost effective packaging material for farmers.
- Ensuring that local (juice) supply also meets quality standards.
- Facilitating credit for farmers that want to add value to their produce.

Value Chain Step 4: Marketing and Trade

Value chain Step 4 aims to increase the market share of Vanuatu kava regionally and globally by increasing the production of quality kava and through market and product diversification. Developing a brand for Vanuatu kava is seen as a means of achieving this. This would require a consensus on how the industry wants to brand Vanuatu kava, and how to protect the brand. The Strategy calls for a decision on whether the industry wants to value add or export partly-processed kava. It also emphasises the need to invest in research and development to protect Vanuatu's leading position in the industry against the risk that nations with larger capacity in terms of capital and other resources decide to produce and process kava on a commercial basis.

The Kava Strategy concludes that kava availability in the islands makes it an ideal crop to generate economic activity, reduce poverty, improve gender equality and provide funds for education. It was noted that Parliament had recently passed amendments to the Kava Act that had brought about some welcome changes. However, it remains to be seen how this will be implemented.

3. The Kava Value Chain

3.1 Kava Marketing Pathways

There are a number of different kava marketing pathways but the great majority of kava produced in Vanuatu passes through one of three channels. In each channel, the initial steps include harvesting, transport of the kava to the village by hand carrying or packhorses and washing, trimming, sorting and bagging the kava in the village. Thereafter the kava enters one of the three main channels each of which has a number of minor variants:

Local/Rural Kava Marketing Pathway (approximately 50% of total production)

- May be consumed by the household or among extended family members.
- Otherwise sold fresh/green to local or nearby nakamals.
- Fresh/green kava is also transported short distances in bags by road to small rural towns and sold to nakamals.

Urban Kava Marketing Pathway (approximately 20% of total production)

- Kava may be dried and bagged in the village, or bagged in fresh/green form.
- Can be sold to an agent in the village or sold directly to urban nakamals.
- On Santo, kava is transported by road to Luganville and sold to nakamals.
- On other islands, kava is collected by barge at intermediary coastal points or transported to the nearest port town and shipped to Luganville or Port Vila.
- Small amounts may also be air freighted from outer islands to Port Vila.
- In Luganville the kava is sold to urban nakamals.
- In Port Vila the kava is collected from the wharf and transported to nakamals or taken to the Namburu kava market where it is sold to consumers or Port Vila nakamals.

Export Kava Marketing Pathway (approximately 30% of total production)

- Kava may be dried and bagged in the village, or bagged in fresh/green form.
- Can be sold to an agent in the village or sold directly to exporters.
- On Santo, kava is transported by road to Luganville and sold to exporters.
- On other islands, kava is collected by barge at intermediary coastal points or transported to the nearest port town and shipped to Luganville or Port Vila.
- Small amounts are shipped to exporters based in Port Vila.
- Exporters sort, wash and dry/re-dry kava.
- All kava export consignments are inspected, tested and certified by the Department of Biosecurity of the Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity (MALFFB).
- Some kava is exported from Luganville in raw bagged/baled form.
- Some kava is processed into powder and packaged or vacuum packed prior to export.
- Regional exports are mostly shipped in sea containers.
- Exports to USA are mostly sent by air freight via Port Vila.

3.2 Value Chain Actors

The principal actors in the Vanuatu kava value chain are as follows:

- **Kava Growers:** Most of the 17,000 households (43% of all rural households) that grow kava operate non-mechanised smallholdings growing 1,000 to 5,000 kava plants generally on several plots. Kava is mostly grown in mixed plantations along with coconuts, papaya, cassava, taro and other crops in the village food gardens. Increasingly there are larger plantations grown in bushland often 3-5 kilometres from the village requiring significant time for commuting to/from the plantations and for transporting harvested kava back to the village for washing, cleaning and sale. Kava growers use family labour for routine operations such as weed control but generally hire daily labour for the major bush clearing,

planting and harvesting operations. There are also a small number of commercial kava growers using some degree of mechanisation for land preparation, harvesting and transport. Growers have the option of selling kava locally to nakamal operators, consuming some of it themselves, selling to agents, or transporting the kava to a town or urban centre for sale to exporters or nakamals.

- **Kava Agents:** There are an un-known number of kava traders in the main kava growing areas operating as agents for nakamal owners and exporters. The agents buy mostly fresh/green kava, but also some dried kava, and transport it to the main consumption points in rural towns and the twomain urban centres of Luganville and Port Vila. Most of the kava exporters are based in Luganville, and Port Vila and Luganville are the main urban consumption centres.
- **Nakamal Operators:** There are over 300 nakamals in Port Vila and over 200 in Luganville plus an unknown number in rural towns and villages. Together these consume around 70% of all kava produced of which about 50% is in the rural areas and 20% in the two urban centres. Most nakamals buy fresh/green kava from rural suppliers either directly or via agents. Some nakamals, particularly in Port Vila buy dried kava because of the ease of transport and storage.
- **Kava Exporters:** There are currently 23 licensed exporters with about five of these handling most of the volume. The great majority of exports are destined for the three main regional markets: Fiji, Kiribati, and New Caledonia and are in raw/dried form or powdered and packaged. Smaller volumes are exported to the USA and minor markets such as New Zealand and the EU. The exporters currently account for about 30% of the available kava.

There are also a number of secondary value chain actors, such as road transport operators, shipping operators, and the two key regulatory agencies, the MALFFB and the Vanuatu Commodities Marketing Board (VCMB).

3.3 Kava Production

There are no official statistics on kava production. The most credible estimates are from Simeone and Lebot (2014) who estimated production to be around 23,000 tonnes (fresh weight) in 2000 and 30,000 tonnes in 2007; equivalent to around 4,600 tonnes and 6,000 tonnes dry weight respectively. As shown in Table 1 the number of households growing kava increased from 6,569 in 1983 to 20,013 in 2007 when the last agricultural census was conducted. However, according to the 2016 mini-census the number of kava producing households declined to 17,719 in 2016, which represents 43% of all rural households.

Table 1: Number of Households Cultivating Kava

	1983	1999	1999	2007	2016
No. of rural households	22,000	22,000	28,157	38,879	41,296
No. of rural households growing kava	6,469	11,861	17,745	20,013	17,719
% of rural households	29%	54%	63%	51%	43%

There is a long-term uptrend in the number of kava plants grown per household from around 200 plants in 1983 to over 1,200 plants in 2007. The uptrend is due to increasing planting density as well as increasing hectareage. In the 1980s and 1990s kava was largely interplanted at low density in mixed food crop gardens. More recently there has been a trend towards pure stands and higher planting densities, reaching 1m x 1m spacing in some cases, or 10,000 plants per hectare. High density plantations of this type are generally harvested in 3-4 stages between the third and sixth year. The trend towards larger crop areas and denser plant populations is believed to have continued since 2007 and is probably in the vicinity of 1,400 to 1,600 plants per household today, with total production capacity in the range of 32,000 – 35,000 tonnes fresh weight.

However, the destruction caused by cyclone Pam in 2015 and the prolonged drought which followed, have caused a short-term decline in production. In an interview with the Guardian Newspaper following the cyclone, Vincent Lebot is reported as saying that while accurate data were hard to come by, it appeared about

a third of the country's kava crop had been destroyed³. Although the recovery has been quite rapid, as seen in the export statistics, the present supply situation is still somewhat restricted below the estimated sustainable production capacity of 32,000 to 35,000 tonnes. This accounts for the record prices prevailing at the time of this study.

The 1990 and 2007 agricultural censuses recorded the number of kava plants by province as shown in Table 2. On this basis it is estimated that almost 50% of kava comes from Penama and almost 30% from Sanma.

Province	1990	2007	Percent	% Change
Torba	114	356	2%	213%
Sanma	144	5,250	29%	3,535%
Penama	1,967	8,905	49%	353%
Malampa	318	1,664	9%	424%
Shefa	138	1,011	6%	634%
Tafea	522	830	5%	59%
Vanuatu Rural	3,203	18,016	100%	463%

Source: Agricultural Census in 1990 and 2007

The 2016 mini-census recorded the number of households producing kava (see Annex 2, Table 3) and confirms that Pentecost is still the main producing province but that there has been a big increase in production in Tafea which now has more kava producing households than Sanma.

Table 3 below shows that the leading provinces in terms of numbers of households growing kava are Penama 30%, Tafea 24% and Sanma 19%. In Penama 78% of all households grow kava, and in Tafea 62% are growers. In Penama the three main kava growing districts are North Pentecost, South Pentecost and Ambae. In Tafea the three main districts are South-West Tanna, Middle Bush Tanna and West Tanna. In Sanma they are South Santo, North Santo and Canal-Fanafo.

	Total HHs	HHs grow Kava	% of HHs	Grower Percent
Vanuatu	55,285	17,893	100%	32%
Urban	13,989	174	1%	1%
Rural	41,296	17,719	99%	42%
By Province				
Torba	1,960	817	5%	42%
Sanma	10,704	3,459	20%	32%
Penama	6,959	5,429	31%	78%
Malampa	8,896	2,695	15%	30%
Shefa	19,913	1,257	7%	6%
Tafea	6,853	4,236	24%	62%

Source: Mini Census 2016

3.4 Domestic Kava Consumption

Kava is mainly produced for domestic consumption with domestic sales generally accounting for approximately 70% of the market. The 2009 population census found that 53% of the adult (over 15 years) male population and 8% of females consume kava with small differences between urban and rural areas. However, because over 70% of the population was resident in rural areas around 72% of all kava consumers were in rural areas, 22% in Port Vila and 6% in Luganville (see Annex 2, Table 1). Around two thirds of males and one third of females between the ages of 20 and 50 were kava consumers in 2009.

³ <http://www.reuters.com/article/us-weather-vanuatu-kava/kava-crisis-as-cyclone-pam-devastates-vanuatu-cultural-crop-idUSKBN0MGODF20150320>

3.5 The Kava Export Sub-Sector

Market Assessment

The market for Vanuatu 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. However, a campaign by the International Kava Executive Committee was instrumental in organising international meetings and took the lead role with Pacific Ambassadors in Brussels. The claim on liver toxicity was cleared by 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 resulting in inferior quality being traded. 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. This emphasises the importance of standards and regulations to avoid future events of the type experienced in Europe.

During the kava boom period the market was segmented into three parts⁴: (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. All three Island groupings of Micronesia, Polynesia and Melanesia consume kava as a beverage. Consumption is the greatest in Vanuatu, Fiji, Kiribati, New Caledonia, Samoa and Tonga with lesser but widespread consumption in Solomon Islands, PNG, and Pohnpei. 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. 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.

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 **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 (hepatotoxicity) emerged.

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

Herbal medicines could be considered as 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.

Some of the kava exported to other PICs is in raw form and some is powdered kava in sachets or vacuum-packed bags. Most, if not all, of the kava exported to the USA is in processed form, mostly as packaged powdered or instant kava. The two main exporters focusing on the US market have modern, hygienic export processing facilities producing a range of well packaged and presented products. They consider that the USA market, although fairly small at present, presents the best growth opportunities.

All segments of the kava market are currently experiencing buoyant conditions. Every exporter interviewed during the study reported difficulty in supplying existing orders, and frequent enquiries from importers seeking additional supplies. There are reports of nakamals in New Caledonia closing down because of their inability to source kava at reasonable prices. Nakamal operators in Port Vila and Luganville also complain that the high export prices are also inflating domestic prices requiring them to dilute the juice more than their customers would prefer.

Volume and Value of Exports

Vanuatu is the leading kava exporter in both volume and value terms, and exports have long been considered an important part of the kava industry. Annex 2 Table 9 presents a summary of export marketing statistics for the period 2000 to 2016 and shows that kava exports have averaged 680 tonnes per annum (dry weight) equivalent to around 3,400 tonnes fresh weight over this period. There was a severe contraction in exports in 2002 following imposition of the EU kava ban which saw exports fall from almost 1,000 tonnes in the previous two years to 457 tonnes in 2002 and 491 tonnes in 2003. From 2004 to 2014 exports fluctuated in the 500 to 800 tonnes range, before falling to just 158 tonnes in 2015 due to destruction caused by cyclone Pam and the El Niño drought period. The reduced supply contributed to price increases at the time, but prices are continuing to rise due to strong domestic demand and a general shortage of kava throughout the Pacific and beyond. Some kava growers are holding back on harvesting in the hope that prices will rise even further, thereby exacerbating the shortage. However, despite the domestic supply limitations, exports bounced back in 2016 to reach a record 1,052 tonnes, and during the first quarter of 2017, 395 tonnes of kava were exported, suggesting that a new record of over 1,500 tonnes could be reached in the current year.

In value terms Vanuatu's kava exports have averaged VUV 580 million per annum over the period since 2000, ranking third behind copra (VUV 717 million) and coconut oil (VUV 646 million) but ahead of beef and cocoa. However, in 2016 kava exports were second only to copra, and could well be the leading commodity export by value in 2017.

Annex 2, Table 9 shows that there has been a general uptrend in export prices since 2000 in both current and constant terms. The average export price in constant 2016 values rose from around VUV 700/kg in 2000 to over VUV 1,700/kg in 2007. Since then, prices have settled into a fairly stable range of VUV 1,100-1,200/kg dry weight.

It is difficult to understand how exporters could currently be exporting profitably in this price range, since fresh kava trades on the domestic market for VUV 700-1,000/kg, equivalent to around VUV 3,500-5,000/kg dry weight. This confirms what most exporters say – that the high domestic prices are making profitable exports very difficult but they are attempting to stay in the market until more favourable margins return.

The amount of kava shipped to different export markets is shown in Table 4 below. Fiji and New Caledonia have consistently been the main export markets, and during the last five years have accounted for over 60% of the total, with USA and Kiribati making up most of the remainder. The EU ban and restrictions on imports to Australia saw exports to these markets severely curtailed from the early 2000s. Exports to EU countries have not resumed in any significant way since reversal of the EU ban in 2015. Instead, exporters have focused on developing the US market as the only significant importer outside the Pacific Islands region. Although prices in the USA beverage and medicinal markets are reported to be strong, it still only absorbs about 20% of Vanuatu's kava exports. All of the exporters interviewed during the value chain study report that they are

struggling to fill export orders within the region, as well as in the USA due to the high prices and limited availability of kava on the domestic market.

Table 4: Percent of Exports (by Volume) to Principal Destinations, 2000-2016				
	2000 - 02	2003 - 06	2007 - 11	2012 - 16
Fiji	45%	72%	40%	28%
New Caledonia	16%	24%	46%	33%
USA	9%	3%	9%	19%
Kiribati	0%	0%	2%	18%
Australia	13%	1%	0%	1%
China	5%	1%	2%	1%
Germany	11%	0%	0%	0%
	100%	100%	100%	100%

3.6 Geographic Production and Consumption Patterns

Comparison of geographic production and consumption patterns based on the number of kava producing households and the number of kava consumers gives a picture of the main areas of kava surplus and deficit and hence the national domestic trade patterns. Table 5 below shows that overall, Vanuatu has around 42 kava growers for every 100 consumers. Penama and Tafea are both major kava surplus areas with around 90 growers for every 100 consumers whereas Shefa is the main deficit area with only 8 growers per 100 consumers. The other provinces are intermediate with around 40 growers per 100 consumers.

Table 5: Number of Kava Growers (2016) and Consumers (2009) by Province				
	Total HHs 2016	HHs grow Kava 2016	# of consumers 2009	Grower Percent/consume
Vanuatu	55,285	17,893	43,087	42%
Urban	13,989	174	11,881	1%
Rural	41,926	17,719	31,206	57%
By Province				
Torba	1,960	817	2,163	38%
Sanma	10,704	3,459	7,917	44%
Penama	6,959	5,429	5,938	91%
Malampa	8,896	2,695	6,149	44%
Shefa	19,913	1,257	16,157	8%
Tafea	6,853	4,236	4,763	89%

Source: Mini Census 2016 & Pop'n and Housing Census 2009

3.7 Legal and Regulatory Framework

The kava industry is governed by two main pieces of legislation: the VCMB Act of 1982 as amended on numerous occasions, the last in 2005; and the Kava Act of 2002 and its amendments which were passed in 2015.

The VCMB Act authorises the establishment of VCMB for the control and regulation of the marketing of “prescribed commodities”, of which kava is one. The Act requires that “no person other than VCMB, its agents or persons authorised in writing by the Board shall export or import a prescribed commodity....” The responsible minister has the power to determine which commodities are prescribed. The Board has the powers to buy and sell prescribed commodities, to control and fix prices and to authorise other parties to trade in prescribed commodities.

VCMB has the power to license/regulate the operations of kava exporters, although the supervision and inspection of exporters is undertaken by MALFFB. VCMB also imposes an ad valorem export levy of 5% of the FOB value of kava exports, which at current prices and export volumes would yield around VUV 60 million per

annum. The Act stipulates that revenue generated from any prescribed commodity/industry should be used for the benefit of that commodity/industry. It is not clear how the proceeds of the kava export levy are used. At the Kava IWG meeting in early 2017, the then VCMB General Manager committed VUV2.5 million of funding to support kava nursery development being undertaken by the Department of Agriculture and Rural Development (DARD). At the time of writing, it was confirmed by DARD that no funds had been received from VCMB.

The Kava Act and its amendments includes the following key provisions:

- The Act separates kava into noble kava and “narafala” kava meaning any varieties other than noble kava.
- Stipulates that Kava must be grown using only organic methods of cultivation.
- Stipulates that only noble varieties (see list in Table 6 below) may be sold domestically and must be planted at least three years before harvest. “Narafala” kava may not be sold or offered for sale in Vanuatu.
- “Narafala” kava can only be exported if requested by a person outside Vanuatu and is done in compliance with biosecurity regulations.
- Any variety of kava may be grown for personal use.
- Kava offered for sale must be in a container providing the name of the variety and the island of origin.
- Only kava of noble varieties can be exported and only if it was planted at least five years before harvest and was cultivated using organic methods.
- All kava exported must be in a container showing the variety, island of origin, the parts/organs of the plant.
- Export of kava planting/propagating materials is prohibited.
- The amendment defines the functions of the Director (or an Authorised Officer) in implementing government policies and programmes including guidelines, standards, manuals or codes of practice and procedures for the production of kava.
- Director means the Director of DARD or the Director of the Department of Biosecurity from MALFFB.
- The amendment defines the rules on export licensing:
 - Exporters must apply to the Director of Biosecurity for an export licence.
 - The Director shall determine the conditions for granting an export licence.
 - Licences have to be renewed annually.
 - It is an offence to export kava without a licence.
 - Licences can be suspended or cancelled for failure to comply with the conditions (including trading in “narafala” kava).
 - After expiry or cancellation of an authorisation under the VCMB Act the provisions of the Kava (Amendment) Act will apply to any licence to export kava.

Table 6: List of Noble Varieties Specified by the Kava Act

Item	Variety Name(s)	Origin
1	Melomelo	Ambae
2	Asiyai, Biyaj	Aneityum
3	Palimet, Miela, Olitao	Emae
4	Kelai	Epi
5	Ge Wiswisket, Ge Gusug	Gaua
6	Boroguru	Maewo
7	Silese	Malekula
8	Melmel, Borogu, Sese	Pentecost
9	Urukara, Bir Sul, Bir Kar, Palarasul, Palasa, Poivota	Santo
10	Pia, Ahouia, Leay, Amon	Tanna
11	Puariki, Paului	Tongoa
12	Naga Miwok, Ge Vemea	Vanua Lava

PHAMA supported development of a National Quality Standard for export of Vanuatu kava. The Standard is aligned with and derives its validity from the Kava Act. The Standard was developed in 2016 and includes the following:

- Product Definition: description of kava in terms of approved (noble) 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, acetone extract colour pattern 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, microbial status, and the method for determination of noble varieties.

Annex 1 of the Standard describes the general principles of kava hygiene covering: primary processing, design and operation of export processing facilities, facility maintenance and sanitation, personal hygiene, transportation, product information and consumer awareness and training protocols. Annex 2 describes the procedures for determination of moisture content, and Annex 3 covers microbiological issues. Annex 4 describes the method of distinguishing noble varieties from “narafala” kava using the acetone extract colorimetry test.

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. 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. Fiji has also developed National Quality Standards for Kava, with PHAMA support, which are similar to the Vanuatu standards. Codex recently approved the development of the regional standard which will harmonise national standards, including those of Fiji and other Pacific Island countries. Vanuatu is leading the development of the regional standards, which is expected to take at least two years.

The **Kava Industry Working Group (KIWG)** was established in 2014 under PHAMA as one of three industry working groups to advise PHAMA and the Government on market access and other issues affecting the industries. The KIWG was recently converted to an incorporated association to be known as the Vanuatu Kava Industry Association (VKIA) which is a legal entity.

The Kava Act provides the legislative basis for implementation of the Kava Strategy, in particular for regulating the production and sale of non-noble (“narafala”), for the licencing of exporters and for inspection and certification of export shipments. The VCMB Act has been repealed by Parliament but the repeal has never been gazetted and has not therefore entered into force. This situation means that there are a number of deficiencies in the legal and regulatory framework governing kava in Vanuatu. In particular:

- The definition of what is noble kava is based on variety. The National Quality Standard recommends the use of the colorimetry test to determine whether the kava is noble or not. For exports, the Plant Protection Act stipulates that the kava must be tested to ensure the plant product meets the agreed quality standard. It should be noted that since the color test technique was developed, it has been peer-reviewed and validated by the scientific community and was found appropriate to determine the quality of the kava. However, from a practical sense, users of the colorimetry test will need support from the relevant authorities to make sure the test protocols are being followed. The capacity of Biosecurity Vanuatu and the Vanuatu National Bureau of Standards (VNBS) (formerly known as the Food Laboratory) to sample, test and certify each and every kava export consignment is constrained. It is possible that some “narafala” (tudei) kava is being exported due to irregularities in the sampling methods or other procedural problems. Certainly, tudei kava is being traded locally, in contravention of the Act.
- Kava industry stakeholders express a high degree of dissatisfaction about the performance of VCMB, and there are ambiguities between the Kava Act and the VCMB Act which create tensions and uncertainties. With the VCMB Act still in force, kava exporters are required to be licensed by both VCMB and Biosecurity Vanuatu, even though the Kava Act stipulates that once VCMB licences have expired (at 12 months) they will be re-issued by Biosecurity Vanuatu. Moreover, the kava industry, through its newly registered

Association has no influence or control over the use of the substantial amount of funding raised by VCMB from the 5% export levy.

3.8 Value Chain Analysis

Kava Production and Marketing: Annex 5, Tables 1 to 5 show the estimated costs and revenues from kava production and marketing at current (mid 2017) costs and prices. The analysis is based on an intensive kava production model with kava planted at a density of 8,000 plants per hectare and harvested progressively in years 3, 4, 5, and 6. 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. The model is based on planting seedlings raised in a nursery and considers three different marketing options.

- Option 1: Local Sale of Fresh Kava to an Agent or Rural Nakamal:** The agent may subsequently on-sell to town or urban nakamals or exporters. The kava is transported from the field or village by hired labour or packhorses and washed and sorted in the village. Shrinkage, losses and waste are estimated to be around 10% between the field and point of sale. Some of the kava may also be consumed within the household or among the local community without being the subject of a commercial transaction. The local sale price is assumed to be VUV 700/kg fresh weight.
- Option 2: Sale of Fresh Kava to a Rural Town Nakamal:** This involves the same steps in harvesting, transporting to the village and washing, sorting and bagging. The grower then has to spend money transporting the kava to a nearby rural town where it is sold to rural town nakamals. Shrinkage, losses and waste in this process amounts to a further 20%. The rural town sale price is assumed to be VUV 850/kg fresh weight.
- Option 3: Sale of Fresh Kava to Nakamals in Port Vila and Lugainville:** This marketing channel may be employed by kava growers with connections in Port Vila and Lugainville or by agents and traders who regularly supply the Port Vila and Lugainville nakamals. Further significant losses are incurred during storage, shipping and transportation, especially to Port Vila, estimated to be around 40% of the amount, as well as quality deterioration due to poor packaging, storage and transportation, especially on the inter-island ships. Costs are incurred in road and sea transport, loading, unloading and transport from the Port Vila wharf to the end user. The Port Vila sale price is assumed to be VUV 1,000/kg fresh weight.

As expected, the analysis shows that all three marketing options generate healthy financial returns at today's high kava prices. Table 7 below shows the average cash flow per annum generated over the six-year cropping cycle, per hectare and per 1,000 kava plants, at current prices and at prices half of current prices. Grown and marketed in this way kava generates far higher returns than any feasible alternative and demonstrates why it is such a popular crop over large parts of Vanuatu. 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".

Option	Current Prices		Lower Prices a/	
	Per hectare	Per 1,000 plants	Per hectare	Per 1,000 plants
Option 1	6,247	781	2,845	356
Option 2	6,528	816	2,856	357
Option 3	5,178	647	1,938	242

a/ Half of current prices

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 Vanuatu 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.

Domestic Consumption: The nakamals and rural household consumption are the second major element of the domestic kava value chain, which accounts for some 70% of kava utilisation, the other 30% being exported. Annex 5, Table 5 shows the estimated costs and revenues from nakamal operation at three different scales: (i) a rural/village nakamal using about 5kg of fresh kava daily; (ii) a rural town nakamal using 20 kg/day; and (iii) an urban (Luganville/Port Vila) nakamal using 50 kg/day. Using a mix of kava of different ages⁵ produces 3-4 litres of juice per kg of fresh/green kava. The current high prices for kava are being passed onto nakamal customers in the form of higher prices for juice, currently in the range of VUV 650-750 per litre.

Whilst the nakamal owners complain about the high prices and poor quality of kava on offer, kava drinkers seem willing to pay these higher prices for juice, so that the nakamals appear to be generating reasonable profits. The strong domestic demand is also apparent from the increased opening hours of nakamals. There are now 24-hour nakamals in Port Vila and nakamals are generally open for much longer hours than a decade ago. In those days nakamals opened just before sunset and closed when the juice ran out - usually around 9pm or 10pm. Now they stay open until the last customer leaves, which can be 3am.

Export Processing and Marketing: There is very limited information available on the costs and returns generated by the kava exporters. The exporters are currently paying VUV 2,500 – 3,200/kg for dried kava or VUV 700-1,000/kg for fresh/green kava. Although fresh/green kava is more expensive (assuming a 5:1 dyeing ratio) many exporters prefer to buy in this form because it provides a greater degree of control over the processing. Much of the dried kava received by exporters is said to require re-washing, sorting and drying before it can be processed. At present prices, it is difficult to see how the exporters can be making money. The export statistics indicate an average FOB price of VUV 1,000-1,200/kg dry weight which is well below the cost of raw materials. However, this could be explained by exporters under-declaring values to avoid paying the export levy. Some exporters are known to be exporting powdered retail packaged kava for around VUV 4,000/kg which could generate a small margin, but generally export margins seem to be very slender or even negative. Niche markets for medicinal or beverage kava in the USA are believed to generate better returns but these markets are small compared to the regional (Fiji, New Caledonia and Kiribati) markets.

3.9 Gender and Social Inclusion

The social and economic importance of kava in Vanuatu means that analysis of the kava value chain needs to give due consideration to gender and social inclusion issues. Annex 4 provides a detailed analysis of gender and social inclusion in the kava value chain which reveals several important findings that need to be incorporated in future programmes to further develop the kava industry. These are summarised as follows.

Women are very active in the value chain, mostly as kava growers. Also, the role of women is changing. Historically, in some provinces women were forbidden from growing or selling kava, making and serving the drink and working in nakamals. These customary barriers to women's participation in a major sector of the economy are gradually breaking down, although some parts of the value chain are still dominated by men, and consumption of kava remains a largely male practice.

PHAMA will need to take a “do no harm” approach to supporting the increased production and export of kava. DFAT's “do no harm” approach covers, amongst other areas, the sustainable management of the environment as a cornerstone of long-term economic growth and social development, and protection of the health, welfare and livelihoods of people including women, children, people with a disability and indigenous peoples⁶. PHAMA can adopt the “do no harm” approach through strategic partnerships with an expanded range of partners that can guide the program on social and environmental issues.

⁵ Young kava produces about 2.0 L of juice per kg of fresh/green kava. This increases with the age of the kava up to around 4-5 L/kg for kava of 5-6 years age.

⁶ <http://dfat.gov.au/aid/topics/safeguards-risk-management/environmental-protection/Pages/principle-1-do-no-harm.aspx>

Current entry points for women in the kava value chain are the same as those for men and include:

- Kava farmers;
- Selling to kava bars in Luganville and Port Vila;
- Kava bar owners/managers;
- Exporters;
- Export processing workers;
- Laboratory technicians (government); and
- Extension officers (government).

Kava Farming: Women farm kava as part of family units, though there are some exceptions where women farm their own land on their own account. The 2016 Mini Census identified 17,893 kava growing households (see Annex 4, Table 8) so it is reasonable to assume that at least that number of women are involved as kava farmers, possibly more if unmarried daughters play a role. Tasks identified by women are the same tasks identified by men: preparing the land; planting; weeding; harvesting; carrying the kava to the village; cleaning chopping and drying a portion for chips; and bagging the kava for sale. Women sell kava to agents in the village and a much smaller number of women are involved in selling to buyers in Santo and Vila. Small amounts of kava are often sold for a specific purpose such as paying school fees or meeting a household or personal need.

There is an opportunity to expand the role of women in kava production through the establishment of nurseries for kava propagation and seedling production of the preferred varieties. Women in strategically located villages could be trained and supported to establish nurseries to propagate and sell kava seedlings to farmers. Training for women on the practicalities of kava nurseries would be required but also training on business and financial management - an area that most women requested more generally.

Women kava farmers require the same access to knowledge as men kava farmers. However, the majority of training activities target men without pursuing ways to improve the participation of women. Training providers have a responsibility to take extra measures to engage village women. Ways to support women to attend training include: (i) providing the training in more villages so that women spend less time walking to the training venue; (ii) providing transport where (i) is not possible; (iii) consulting women on what days and times they would be willing to attend training; (iv) providing supervised childcare in the village or at the venue; and (v) arranging catering so that it doesn't draw the women away from the training. Every effort should be made to ensure that women and men with disabilities are included in training also, because it is evident from village consultations that many play a role in kava farming.

Selling to Kava Bars in Luganville and Port Vila: Some women kava farmers play a role in selling green kava to kava bar owners in Luganville and Port Vila. Fuller investigation would be required to estimate the number of women taking on this role but it appeared from consultations that those who do are exceptions. It is mostly men who play this role, but a few women travel with the kava to the urban areas to transact sales. Proceeds of sales return to the family unit so there is no additional monetary reward for this work, but it does place women in an authoritative role during the sale process and allows them to expand their business knowledge. At the Namburu kava market in Port Vila 20 or more individuals sell kava primarily to small nakamal owners or individuals for home consumption. Only a small number of sellers are women and while sales would provide income, in the form of commission, the amount would be relatively small compared to further up the value chain. None-the-less, women are engaged in the kava economy in this way and may develop business knowledge as a result.

Village Agents and Transporters: Women are not represented in transportation or as village kava agents employed by exporters. Reasons given were that agents travel long distances, often on foot, and that it is not appropriate for a woman to enter a distant village alone. Agents earn a commission on volumes and, for some, it has been enough over time to buy a truck or boat to increase income by selling transportation services to the same kava farming communities. It would be useful for exporters to consider safe ways to make these opportunities available to women.

Kava Bar Owners/Managers: Once dictated by custom as a male-only domain, increasingly women are establishing nakamals in the urban areas, often with support of male family members. There is no accurate record of the number of kava bars in the two urban areas so it is impossible to identify the number of women

owner/managers unless a comprehensive survey is undertaken⁷. Both women and men work in the nakamals for low wages. Tasks include preparing the juice, serving, taking cash and cleaning. However, there are reports of some male kava drinkers being reluctant to buy kava from women-owned and staffed nakamals. Another opportunity that has opened up for women is the sale of food in kava bars. The concept was introduced from New Caledonia and rapidly caught on. Now most kava bars in urban areas have a food sales table run by women.

Women establishing kava bars have opportunities to move further up the value chain, develop financial management and business skills and be in decision-making positions. At the same time, as kava drinking becomes more accessible by locations and by extended opening hours, social issues are reported to be escalating. In some cases, more household income is being spent on kava drinking leaving less for other household needs. Sometimes the financial strain placed on the household leads to domestic violence or, in the worst cases, the breakdown of the family unit. Both women-owned and men-owned nakamals may need to take stock of the social impacts on the families of customers who abuse kava.

Women Exporters: Eight of the 23 licensed kava exporters are women and one is a married couple who operate the business together. Not all women exporters were interviewed but of those who were, two reported attempts by male exporters to shut them down when they first moved in to exporting.

Women exporters work in different ways to men exporters. Women tend to have smaller operations and have developed trusted relationships with both kava farmer suppliers and importers. Most are not looking to scale up by developing contacts with other importers but are willing to increase quantities supplied to existing buyers if their farming networks grow larger quantities. The larger export companies run by men tend to have no direct relationships with kava farmers and procure supplies through agents.

It appears that the women exporters have developed their own niches that are not a threat to larger exporters but instead are identifying new market entry points. There is potential for more women to develop their own niches but a substantial amount of working capital is required for purchasing and exporting kava.

Systemic barriers to women moving into exporting were identified as the licensing process, registration, criteria, biosecurity clearances, phytosanitary export licenses, and the complexity of forms that have to be filled in. The Vanuatu Women's Development Scheme (VANWODS) is willing to assist women keen to build up their kava-growing business—both with loans and technical support—but requires accurate information from the Department of Trade to pass on to women farmers. PHAMA may be able to assist by including VANWODS in the KIWG.

Export Process Workers: Exporters primarily employ women in their processing operations because they have proven to be more reliable and better workers. Only an examination of employment records in all the warehouses would establish the actual numbers. These are mostly low paid jobs, though some women have moved up into supervisory roles. At least one exporter provides additional benefits to staff as an incentive to commit to the company and not move jobs. Incentives include school fees and medical support, especially where staff have been victims of domestic violence. These staff work in clean environments where protective clothing is supplied. Tasks include weighing kava being received at the facility, washing roots, chopping and drying roots, grinding some root to powder, and packaging and labelling powder. Even though kava processing work is low paid, it is an opportunity for women to enter the formal economy and to gain work experience. Processing facilities in urban areas provide income for women who may not have access to farm land for cash crops, so contributes to improved livelihoods.

Laboratory Technicians: Of the small number of lab technicians working in the kava industry, the majority (roughly six) are women. They are employed by the Ministry of Trade's Food Technology Development Centre – Analytical Unit (FTDC-AU). They conduct analytical testing of kava root and powder destined for export to ensure the quality meets the required standards. The Analytical Unit also provides training to kava exporters on colorimetric testing to determine noble from non-noble kava. The majority of technicians at FTDC-AU are women but it is unclear why or how women have come to dominate this occupation. FTDC-AU makes recommendations to government on kava legislation and strategy, thus placing women in a rare influential

⁷ Some participants estimated as high as 700 bars in Port Vila and 300 in Luganville.

decision-making position inside the industry. Perhaps, at a future time, a private sector testing laboratory could be established and could create a business opportunity for women that would be higher up the value chain.

Extension Officers: Only three of the 40 DARD extension officers are women, one of whom heads the extension section but faces challenges in villages from men who are not willing to accept her authority or knowledge. Ideally, DARD would like to have 72 extension officers, one for each area council. DARD should aim for approximately equal numbers of women and men officers to achieve the best results in supporting farming families. DARD should also set targets for attendance by women and men at training as it might assist men to see what women do and to accept expert advice from a woman. Training service-providers should also include gender training elements in kava-related training. Doing so could lead to improving the enabling environment for women extension officers.

DARD has commenced the establishment of nurseries to assist with increasing production of the preferred varieties. There are seven farmer groups involved with the nurseries so far, each of which has a lead farmer, all of whom are males. DARD should work towards having equal numbers of female and male lead farmers so that industry knowledge is shared more broadly. DARD is also interested in outsourcing nurseries to private individuals, in an effort to scale up nursery production, and is open to supporting women-owned nurseries. Nurseries are an opportunity to move women up the kava value chain and may be the most viable opportunity for women heading households.

3.10 Summary of Kava Value Chain

Table 6 in Annex 5 provides estimates of the total amount of kava produced in Vanuatu and its utilisation for export or domestic consumption. The quantities are considered to be a long-term sustainable yield based on the estimated plantation areas and planting densities. Current production is almost certainly lower than the amounts shown due to the after-effects of cyclone Pam and the drought which followed. However, this is likely to present a more typical scenario than a current (mid 2017) snapshot. The results are summarised in Table 7 below:

Table 7: Estimated Production and Utilisation of Kava in Vanuatu (tonnes fresh/green weight)				
Production	Tonnes	Percent	Tonnes	Percent
Gross amount	32,000	100%	35,000	100%
Shrinkage, losses and waste	6,989	22%	7,555	22%
Net Availability	25,011	78%	27,445	78%
Utilisation				
Exports	7,500	30%	7,500	27%
Domestic Consumption				
Rural	12,607	50%	14,360	52%
Port Vila	3,853	15%	4,388	16%
Luganville	1,051	4%	1,197	4%
Total Domestic	17,511	70%	19,945	73%
Total Utilisation	25,011	100%	27,445	100%

Due to uncertainty about the total level of production, two estimates of production are shown 32,000 tonnes per annum and 35,000 tonnes. Based on estimates by Simeoni and Lebot (2014) shrinkage, losses and waste in the various marketing channels is calculated to be around 22% of production leaving net availability of fresh/green kava of between about 25,000 tonnes and 27,400 tonnes. Based on estimated 2017 exports of 1,500 tonnes dry weight, about 27-30% of this or some 7,500 tonnes of fresh/green kava is utilised in the export marketing channels. This leaves 70-73%, or between 17,500 and 19,400 tonnes available for the domestic market of which the majority is consumed in rural areas (which are home to over 70% of ni-Vanuatu) and most of the remainder in the urban nakamals of Port Vila and Luganville.

Table 8 below provides estimates of the gross value of kava sales in the export and domestic markets under the long-run sustainable yield estimates shown in Table 7. The export sales are based on the expected export

volumes and prices in 2017, which will produce a record gross export revenue of around VUV 1.65 billion. However, this is quite small relative to the value of domestic sales, most of which takes place through nakamals where the return per kg of kava used is much higher than for exports. Overall the gross value of sales from the kava industry under “normal” conditions (i.e. not cyclone or drought affected) are estimated in the range of VUV 46-52 billion (USD 430-480 million) of which exports account for only 3-4%.

Table 8: Estimated Gross Value of Sales: Export and Domestic Markets

Table 8: Estimated Gross Value of Sales: Export and Domestic Markets			
Total kava production (tonnes)		32,000	35,000
Gross Value of Exports (VUV m) a/		1,650	1,650
Domestic Sales (million litres of Juice)			
Rural		48	54
Port Vila		15	17
Luganville		4	5
Total Domestic		66	75
Gross Value of Domestic Sales (VUV million)		VUV/L	
Rural	650	30,957	35,262
Port Vila	750	10,917	12,433
Luganville	700	2,779	3,165
Total Domestic		44,653	50,860

a/ 1,500 tonnes dry weight @ VUV 1,100/kg

The large number of people engaged in different parts of the kava value chain is another indicator of its social and economic importance. Overall, it is estimated that some 20,000 to 25,000 households in Vanuatu are engaged in some part of the kava value chain. This represents around 35%-45% of all households, most of whom are kava growers. In the major kava-growing areas almost all rural households use kava as their principal source of cash income. The number of people involved in the downstream parts of value chain as rural traders, nakamal operators, process workers, exporters and service providers, is not known but thought to be far fewer than the approximately 18,000 growers.

4. Conclusions and Recommendations

4.1 General Conclusions

The Kava industry in Vanuatu is well structured with an established industry association, a well-articulated national strategy which sits under the overarching Agricultural Sector Policy, and an established legal and regulatory framework. PHAMA's support for the kava industry is aligned with the main elements of the kava strategy. Initially this focused on the export sub-sector, particularly in the downstream parts of the value chain corresponding to Steps 3 and 4 of the strategy, which is in line with PHAMA's mandate. However, recognising the importance of the domestic market, and the supply constraints affecting both the domestic and export pathways, PHAMA subsequently expanded its focus to include activities on production to address the supply issues. This is highlighted as a priority on kava in the Annual Strategic Plan for 2017-18 and is currently being rolled out through support for nursery propagation of resilient seedlings of noble varieties and training through DARD. This is expected to deliver significant benefits to the domestic sub-sector which is the core of the kava business.

In this way, PHAMA's work is highly relevant to the objectives of the kava strategy especially the need for greater quality consciousness, planting of the preferred varieties, engaging the market and developing an effective regulatory framework. The value chain analysis demonstrates that kava is an extremely important part of the rural economy, with potential for further expansion of the relatively small export sub-sector. In this context, the support provided by PHAMA over the last few years in developing quality standards and raising awareness about their importance, as well as its support for the Kava IWG and the Association, is seen as highly relevant to the future prosperity of the industry.

Analysis of the kava value chain including its gender and social inclusion aspects confirms that kava is one of Vanuatu's most important agricultural commodities, which is already generating substantial social and economic benefits for rural communities, and has the potential for further development. Notwithstanding the fact that the domestic market currently generates most of the revenue from kava, the future of the industry will be heavily dependent on the expansion of exports.

Exports are currently running at all-time highs. However, short-term supply shortages related to the recent hurricane and drought combined with strong domestic demand has produced soaring prices, making it difficult for the exporters to operate in the regional and USA markets, and all report that they are unable to fill their export orders due to domestic supply and price constraints, as well as product quality limitations. All kava growing communities consulted during the study expect to produce more kava in 2018 than in 2017, indicating that production is recovering from the current levels. Increased, stable and sustainable production of kava is a high priority.

With the supply of kava expected to normalise in the next 2-3 years domestic prices are likely to ease, providing some relief to exporters and nakamal operators. However, kava production will remain very attractive for growers, as it has been for several decades. Even so, given the vulnerability of the crop to cyclones and droughts and the likelihood that the frequency and severity of such events will increase over time, instability is likely to be a continuing feature of kava sector.

Regardless of the underlying supply fluctuations, there is a need to fast-track implementation of the measures already in place under the Kava Act and the National Quality Standards to assure the quality and safety of kava in both domestic and export markets. This calls for significant new investments to strengthen the capacity of the regulatory framework, and to accelerate the propagation and planting of the approved kava varieties.

4.2 Recommendations

A broad strategic framework for the sector is already in place under the Kava Strategy. However, its implementation is constrained by the lack of funding and the need for a more effective institutional, legal and regulatory framework. The key recommendation arising from the study is therefore to prepare a fully costed kava industry development programme, based on the existing kava strategy and the priorities identified in this

study, and to then seek funding for its implementation. The key elements of such a programme may include some or all of the following:

- Expansion of nurseries in the main kava producing areas for propagation and planting of approved varieties. The nurseries should preferably be operated by the private sector as stand-alone business ventures, with technical support from DARD. In addition to accelerating the transition to the approved varieties the use of high quality disease-free planting material would contribute to increasing kava productivity and production.
- Improvements in rural infrastructure 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, traders, nursery operators and agents. This would help to reduce transaction costs in the value chain and help to improve household financial management.
- Measures to facilitate and encourage social inclusion in the kava value chain, specifically the participation of women in higher level value-adding activities, as well as reinforcing their current roles in producing and processing kava.
- Routine monitoring of kava planting and the inventory of existing plantations by age and variety, including post drought and post cyclone surveys. This would provide a solid base of statistical information and forward projections of kava availability to assist exporters in making forward commitments to their customers. This helps to avoid situations where exporters lose credibility with their customers by being unable to fill export orders.
- Institutional reform, to resolve current ambiguities in the legal and regulatory framework, and especially to ensure that the export levy is used for the direct benefit of the kava industry. The newly constituted Kava Industry Association should play a leading role in this reform process.
- Measures to mitigate potentially negative social consequences of measures to boost kava production including reduced food security, land disputes, excessive kava consumption, and poor household financial management. Efforts by PHAMA and others to support increased kava production to meet domestic and export demand need to integrate various types of training that may assist to mitigate such unintended consequences.

Annex 1: List of Persons and Organisations Contacted

Person		Organisation	Position
Charity	Alick	Department of Agriculture and Rural Development	Director of Extension
Ruth	Amos	Ministry of Trade FTDC-AU	Senior Laboratory Technician
Elian	Asal	VANWODS Treasurer	Pannas Village, South Pentecost
Elizabeth	Bebe	VANWODS	Operations Manager
Rangkon	Berangben	Ministry of Trade FTDC-AU	Assistant Laboratory Technician
Rebecca	Bogiri (Dr)	PHAMA Vanuatu	National Market Access Coordinator
William	Colmar	Valele Trust	Kava Exporter
Bryan	Death	Tourism Market Development Fund	Director
Tony	Dennis	South Sea Shipping (Vanuatu) Limited	Branch Manager, Santo
Jordan	Erickan	Department of Biosecurity	
John	Fordham	Forney Enterprises, Kava Exporter	Managing Director
Josh	Fordham	Forney Enterprises, Kava Exporter	Factory Manager
Reynolds	Garae		Nakamal owner, Port Vila
Simon	Jacob	Department of Biosecurity	
Liku	Jimmy	Forney Enterprises	Programme Manager - Recovery
Roy Mickey	Joy	Department of Foreign Affairs and Trade	Vanuatu Ambassador to the EU
Noel	Kalo	Department of Industry	Acting Director
Jonah	Kaloric	Vanuatu Commodities Marketing Board (VCMB)	Personnel and Licencing Officer
Francois	Kavirere	Chamber of Commerce and Industry	Senior Project Officer
Maurice	Kedi	Ministry of Justice and Community Service	CBR Officer, Disability Desk
Frank and Julia	King	Kava House	Proprietors
Mark	Le Roux	ADRA Vanuatu	Country Director
Vincent	Lebot (Dr)	Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)	Kava Researcher
Rosemary	Leona	Vila Rose Hotel, Kava Exporter	Owner/Manager
Anthony and Aman	Leong	Localex, Kava Exporter	Managing Director
Michael	Louze	Kava Industry Working Group (KIWG)	Kava Exporter and Chair of KIWG
Magalie	Maloklese	De Quieros Exporters	Kava Exporter
Jill	Makikon	Vanuatu Women's Centre	Community Educator
Vola	Matas	Vanuatu Women's Centre	Legal Officer
Sophie	Mera	Sophies Nakamal, Port Vila	Owner/Manager
Tari	Molisale	DARD	Root Crop Specialist
Knox	Morris	Ministry of Justice and Community Service	VDA Support Officer
Russell	Nari	North Pentecost Kava Farmers	Adviser
Jimmy	Nipo	New Zealand High Commission	Senior Development Programme Coordinator
Antoinia	Pikioune	Maison de Sanma Exporters	Kava Exporter
Asinate	Pikioune	De Quieros Exportors	Kava Exporter
Clinton	Pobke	DFAT Governance for Growth	Programme Director

Person		Organisation	Position
		Programme	
Michelle	Prendergast	DFAT	SPM Aid Policy and Management
Antoine	Ravo	Department of Agriculture and Rural Development	Director
Kathy	Solomon	Department of Women's Affairs	Consultant
Merilyn	Tahi	Vanuatu Women's Centre	Executive Director
Gwenneth Natu	Tari	Department of Agriculture and Rural Development	Marketing Officer
Amon	Tavoa	National Bank of Vanuatu	Microfinance Coordinator
Emily	Tumikon	Ministry of Internal Affairs	Second Political Advisor
Anna	Wells	Vanuatu National Statistics Office	Senior Statistics Officer
Donald	Wouloseje	UNDP	Programme Analyst
Fremden	Yanhambath	Skills for Economic Growth Program	Director

Community Groups Consulted

Santo	Pentecost
Sarete Community Narango Community Mafunlevu Community Fanafo Community	Pangi Community Pannas Community

Annex 2: Statistical Summary

Table 1: Kava Consumption Among Population 15 Years and Over by Province in 2009

	Yes			No			Total			Percent who Consume			Percent of Consumers		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Vanuatu	43,087	37,232	5,855	96,555	32,362	64,193	139,642	69,594	70,048	31	53	8	100	86	14
Urban															
Port Vila	9,493	7,593	1,900	20,524	7,886	12,638	30,017	15,479	14,538	32	49	13	22	18	4
Luganville	2,388	1,936	452	5,863	2,187	3,676	8,251	4,123	4,128	29	47	11	6	4	1
Total Urban	11,881	9,529	2,352	26,387	10,073	16,314	38,268	19,602	18,666	31	49	13	28	22	5
Rural	31,206	27,703	3,503	70,168	22,289	47,879	101,374	49,992	51,382	31	55	7	72	64	8
By Province															
Torba	2,163	1,657	506	3,076	892	2,184	5,239	2,549	2,690	41	65	19	5	4	1
Sanma	7,917	7,067	850	18,692	6,425	12,267	26,609	13,492	13,117	30	52	6	18	16	2
Penama	5,938	5,423	515	11,510	3,220	8,290	17,448	8,643	8,805	34	63	6	14	13	1
Malampa	6,149	5,533	616	15,465	4,920	10,545	21,614	10,453	11,161	28	53	6	14	13	1
Shefa	16,157	12,979	3,178	35,254	13,271	21,983	51,411	26,250	25,161	31	49	13	37	30	7
Tafea	4,763	4,573	190	12,558	3,634	8,924	17,321	8,207	9,114	27	56	2	11	11	0
Total	43,087	37,232	5,855	96,555	32,362	64,193	139,642	69,594	70,048	31	53	8	100	86	14

Source: National Population and Housing Census 2009

Table 2: Kava Consumption by Age and Sex in 2009

Age Group	Population			Males who Consume			Females who Consume			% Consuming	
	Total	Male	Female	Total	Yes	No	Total	Yes	No	Male	Female
15-19	21,734	10,918	10,816	10,918	2,130	8,788	10,816	339	10,477	201	4
20-24	21,229	10,198	11,031	10,198	5,631	4,567	11,031	825	10,206	55	18
25-29	18,245	9,001	9,244	9,001	5,967	3,034	9,244	823	8,421	66	27
30-34	15,586	7,727	7,859	7,727	5,177	2,550	7,859	798	7,061	67	31
35-39	14,016	6,967	7,049	6,967	4,577	2,390	7,049	798	6,251	66	33
40-44	11,423	5,747	5,676	5,747	3,606	2,141	5,676	659	5,017	63	31
45-49	10,144	4,994	5,150	4,994	3,051	1,943	5,150	614	4,536	61	32
50-54	7,245	3,675	3,570	3,675	2,132	1,543	3,570	347	3,223	58	22
55-59	6,314	3,230	3,084	3,230	1,815	1,415	3,084	284	2,800	56	20
60-64	4,284	2,171	2,113	2,171	1,074	1,097	2,113	161	1,952	49	15
65-69	3,790	2,032	1,758	2,032	981	1,051	1,758	111	1,647	48	11
70+	5,632	2,934	2,698	2,934	1,091	1,843	2,698	96	2,602	37	5
Total	139,642	69,594	70,048	69,594	37,232	32,362	70,048	5,855	64,193	53	8

Source: National Population and Housing Census 2009

Table 3: Number of Households Growing Kava in 2016

	Total HHs	HHs grow Kava	Grower Percent
Vanuatu	55,285	17,893	32
Urban	13,989	174	1
Rural	41,926	17,719	42
Torba	1,960	817	42
Gaua	488	340	70
Vanua Lava	607	235	39
Ureparapara	89	85	96
Me relava	130	57	44
Torres	159	41	26
Mota	147	33	22
Motalava	340	26	8
Sanma	10,704	3,459	32
S Santo	1,687	982	58
N Santo	916	531	58
Canal-fanafo	967	527	54
E Santo	938	475	51

Table 3: Number of Households Growing Kava in 2016				
	Total HHs	HHs grow Kava	Grower Percent	
W Santo	634	334	53	
S-E Santo	1,209	318	26	
N-W Santo	332	115	35	
Luganville	3,024	104	3	
W Malo	559	53	9	
E Malo	438	20	5	
Penama	6,959	5,429	78	
N Pentecost	1,222	1,102	90	
S Pentecost	978	910	93	
C Pentecost 2	891	824	92	
N Ambae	799	570	71	
C Pentecost 1	575	524	91	
N Maewo	538	452	84	
W Ambae	827	376	45	
S Maewo	273	255	93	
E Ambae	526	248	47	
S Ambae	330	168	51	
Malampa	8,896	2,695	30	
S-W Malekula	772	588	76	
S-E Malekula	959	476	50	
N-W Malekula	1,158	424	37	
N Ambrym	664	366	55	
S Malekula	882	304	34	
S-E Ambrym	457	304	67	
Paama	390	32	8	
W Ambrym	642	72	11	
N-E Malekula	1,619	42	3	
C Malekula	1,353	37	3	
Shefa	19,913	1,257	6	
Varisu	360	260	72	
Vermaul	292	168	58	
Eton	666	162	24	
Eratap	1,293	129	10	
Vermali	383	120	31	
Port Vila	10,965	70	0.6	
N Tongoa	364	63	17	
Erakor	1,679	61	4	
S Epi	237	53	22	
Mele	813	46	6	
N Efate	590	34	6	
Malorua	588	23	4	
Nguna	400	19	5	
Emau	152	19	13	
Makimae	250	17	7	
Tongariki	234	7	3	
Pango	460	6	1	
Ifira	187	0	0	
Tafea	6,853	4,236	62	
S-W Tanna	991	892	90	
Middle Bush Tanna	1,085	889	82	
W Tanna	1,503	790	53	
Whitesands	1,392	632	45	
N Tanna	767	558	73	
S Tanna	269	200	74	

Table 3: Number of Households Growing Kava in 2016				
	Total HHs	HHs grow Kava	Grower Percent	
Aneityum	281	187	67	
Futuna	109	41	38	
S Erromango	108	36	33	
N Erromango	248	11	4	
Aniwa	100	0	0	

Source: Mini Census 2016

Table 4: Summary of Kava Production (2016) and Consumption (2009)				
	Total HHs 2016	HHs grow Kava 2016	No of Consumers 2009	Percent Grow/Consume
Vanuatu	55,285	17,893	43,087	42
Urban	13,989	174	11,881	1
Rural	41,926	17,719	31,206	57
By Province:				
Torba	1,960	817	2,163	38
Sanma	10,704	3,459	7,917	44
Penama	6,959	5,429	5,938	91
Malampa	8,896	2,695	6,149	44
Shefa	19,913	1,257	16,157	8
Tafea	6,853	4,236	4,763	89

Source: Mini Census 2016 & Pop'n & Housing Census 2009

Table 5: Summary of Agricultural Census Data on Kava, 2007	
No of households engaged in agricultural activities	38,879
No of members of agricultural households	175,051
Members per household	4.5
No of households with kava plant sub-holdings	20,013
Total No of parcels growing kava	47,629
Average number of parcels per sub-holding	2.4
Total kava plants currently in the sub-holdings (million)	18.441
Percent of kava plants	
Less than 4 years	85
5-9 years	13
10 years and over	2
Number of kava plants ready for harvest (million)	4.557
Average number of kava plants per grower household	921
Average number of kava plants per parcel	387
No of households that sold kava plants in the last 12 months	10,723
Percent of households that sold kava plants in the last 12 months	54
Total value of kava plants sold in the last year (VIJ V million)	131

No. of Households Planting Kava by Province, 1990 & 2007				
Province	1990	2007	Percent	% Change
Torba	838	1,231	6	47
Sanma	1,624	4,363	22	169
Penama	3,071	5,793	29	89
Malampa	2,366	3,086	15	30
Shefa	1,410	1,501	8	6
Tafea	3,341	4,039	20	21
Vanuatu Rural	12,650	20,013	100	58
No. of Kava Plants ('000) by Province, 1990 & 2007				
Province	1990	2007	Percent	% Change
Torba	114	356	2	213

Sanma	144	5,250	29	3,535
Penama	1,967	8,905	49	353
Malampa	318	1,664	9	424
Shefa	138	1,011	6	634
Tafea	522	830	5	59
Vanuatu Rural	3,202	18,016	100	463

Tables from Siméoni P and Lebot V (2014) Buveurs de Kava. ISBN 978-2-9533362-3-8

Table 6: Number of Households Cultivating Kava, Number of Plants and Area Grown					
Number of Households Cultivating Kava					
	1983	1994	1999	2007	2016
No of rural households	22,000	22,000	28,157	33,379	41,296
No of rural households growing kava	6,469	11,861	17,745	20,013	17,719
Percent of rural households growing kava	29	54	63	51	43

Source: Table 15, Simone and Lebut (2014) and Mini Census 2016

Average Number of Kava Plants per Household					
	1983	1994	1999	2007	2016
Total number of kava plants (10.00)	1,290	3,695	5,065	24,272	
Number of households growing kava	6,469	11,361	17,745	20,013	17,719
Average number of plants per household	199	312	342	1,213	

Source: Table 16, Simone and Lebut (2014) and Mini Census 2016

Area Growing Kava & Area per Household					
	1983	1994	1999	2007	2016
Total number of kava plants ('000)	1,290	3,695	6,066	24,272	
Average plant density (plants/ha)	1,000	1,500	2,000	2,500	
Area used for growing kava (ha)	1,290	2,463	3,033	9,709	
Number of households growing kava	6,469	11,861	17,745	20,013	17,719
Average kava area per household (hal)	0.20	0.21	0.17	0.49	

Source: Table 17, Simone and Lebut (2014) and Mini Census 2016

Table 8: Number of Kava Bars in Port Vila		
Kava Bars in Port Vila		
	2000	2007
Number of kava bars	200	390
Opening hours per day	5	5
Average number of customers per bar per day	70	50
Amount of kava purchased from farmers (tonnes)	5,000	9,750
Losses in storage and preparation	2,500	4,875
Litres of juice/kg of fresh kava	2	2
Annual volume of juice prepared (L'000)	5,000	9,750
Volume consumed per drinker per day	0.8	0.8
Volume consumed per day (L'000)	11.2	15.6
Volume consumed per annum (L'000)	4,088	5,694
Annual losses of juice (L'000)	912	4,056
Annual losses of juice (percent)	18	42
Amount paid to farmers (VUV millions)	500,000	975,000
Amount paid to farmers (USD millions)	4,630	9,028
Payments to kava grinders	5,000	97,500
Nakamal staff salaries (VUV millions)	219,000	416,100
Price per litre of kava juice	625	650
Annual business turnover (VUV millions)	2,555,000	3,701,100

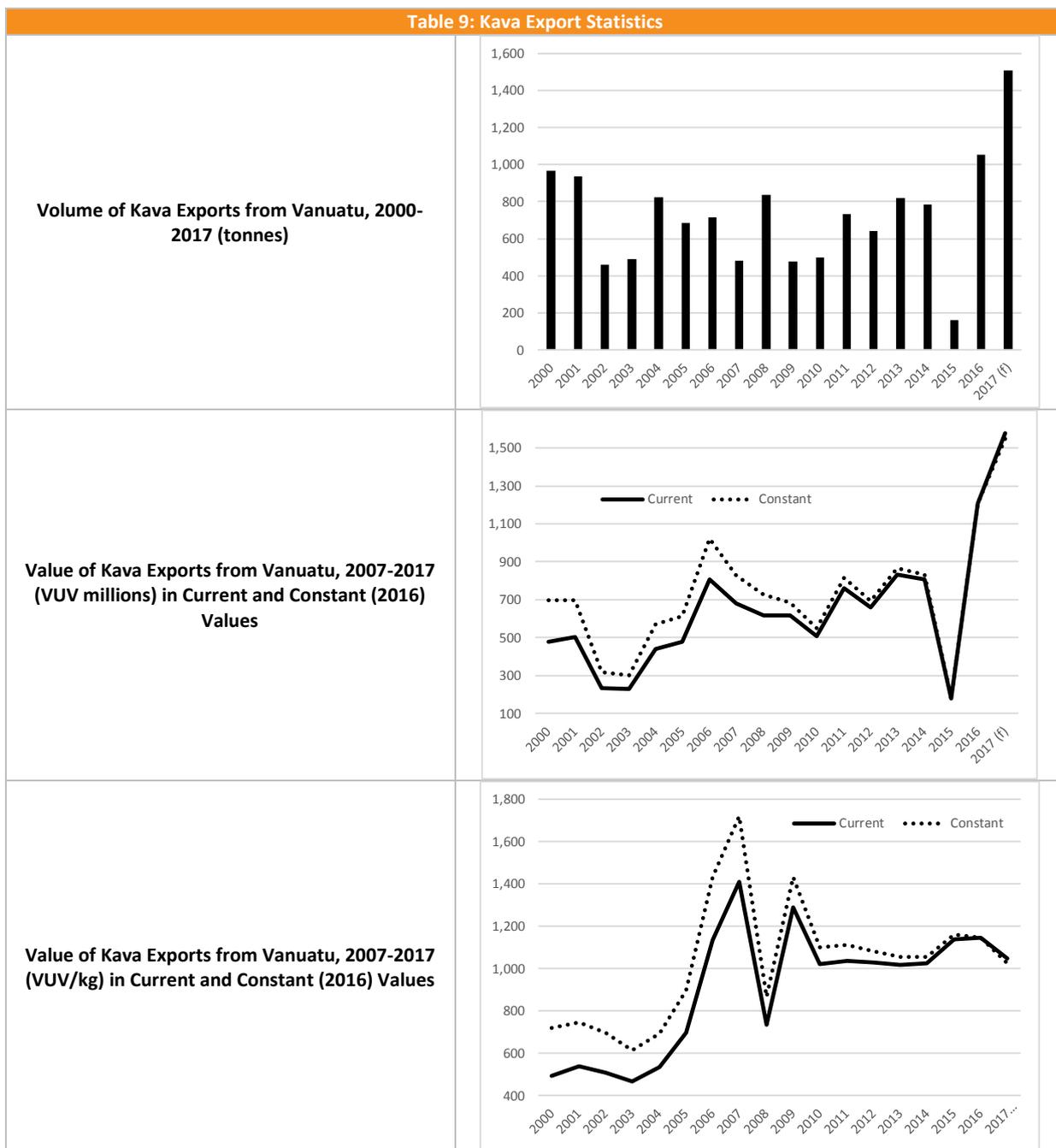
Source: Table 21, Simone and Lebot (2014)

Gross Revenues for Principal Value Chain Actors in 2007 (VUV millions)			
	Tonnes Fresh	Average VUV/kg	Gross Revenue
Producers a/	23,000	89	2,047
Intermediaries	23,000	50	1,150

Transporters	23,000	17	391
Volume remaining after transport losses of 11%	20,470		
Kava bars: (losses: 50% at cleaning and 20% un-sold)	8,188	1,300	10,644
Grinding units	10,235	20	205
Exporters (30% losses)	2,500	272	680

Source: Table 27, Simone and Lebot (2014)

a/ Producers are normally paid VUV 100/kg less an allowance for 11% losses during transport



Percent of Exports (by Volume) to Principal Destinations

	2000-02	2003-06	2007-11	2012-16
Fiji	45	72	40	28
New Caledonia	16	24	46	33
USA	9	3	9	19
Kiribati	0	0	2	18
Australia	13	1	0	1
China	5	1	2	1
Germany	11	0	0	0
	100	100	100	100

Annex 3: Vanuatu National Kava Strategy, 2016-2025, Executive Summary

More than 80% of Vanuatu's population rely on agriculture for their daily subsistence and wellbeing. Subsistence farming continues to be the mainstay of Vanuatu's economy; however an increasing proportion of farmers are evolving into semi-commercial farming, making the sector the largest provider of employment. Kava is the third largest export commodity from Vanuatu and its utility as a cash crop is universally recognised. The issues facing the sector are well known and well documented, and solutions have been put forward in the past in various studies and working groups on how to deal with these issues.

Observations suggest that the volume of kava consumed locally and the ancillary activities surrounding local consumption would gross over VT 2 billion per annum.

Quality and Quantity are the challenges facing the industry. Many attempts have been made to try and address these challenges but results have been mixed and awareness materials developed have not been disseminated to the level where those who need to know are aware of their existence.

The strategies in this document have been developed with a view to addressing part of the following national goals: broadly reflecting Article 7d of the Constitution on duties to one's self; Government's Priorities and Action Agenda (PAA), specifically on primary sector development; Government's Planning Long and Acting Short (PLAS) call for agriculture to be promoted as the country's economic growth and employment generator. The above national goals and their inherent strategies, and the recently launched Vanuatu Agriculture Sector Policy (of which kava is a part), are linked to the global aims of the Millennium Development Goals (MDGs) and the new Sustainable Development Goals (SDGs), for poverty eradication, SDG1, food security, SDG2, gender equality and empowerment, SDG3, sustainable economic growth, SDG8, and SDG15, sustainable management of terrestrial resources.

These linkages are outlined in the Action Plans developed for the strategies.

The existing regulatory framework is recognised as an impediment to the growth of the kava industry and needs to be reviewed and enhanced to ensure the future viability of the industry. The recent change to the Kava Act passed by parliament is a move in the right direction.

There is insufficient investment by government in research and development; this is an essential component for the future of the industry.

Paramount to the successful implementation of any strategy is that of ownership – as proven in the past a 'working group' finds great difficulty in leading and directing as it cannot be accountable for any decision it takes simply because each member of the group have their individual functional priorities which often takes precedence over the group priorities. The strategies articulated here will join the other 'papers' if no 'champion' is appointed, and funded to drive the vision.

A paradigm shift is required by all stakeholders in the kava industry if the aims of the Agriculture Sector Policy are to be achieved. There is a need to develop a formal industry framework to ensure leadership in the delivery of these strategies. Second and also vital to the plan is to challenge farmers and make them understand that farming, especially kava farming is an 'honourable profession'. Third farmers need to be trained in all facets of the kava value chain, including basic business awareness training.

A very ambitious Vision Statement has been developed to provide the road map for the future. Given Vanuatu's position as the 'home' of kava it is imperative that an ambitious vision be developed and also imperative that all stakeholders play their part.

THE PROPOSED VISION IS: TO BE THE LEADING PRODUCER OF QUALITY KAVA IN THE PACIFIC AND THE WORLD.

This strategy outlines 4 main strategic objectives with a 5th supplementary objective to drive the industry to the next level and to support the vision of being the leading producer of quality kava in the world:

- **Objective 1:** Develop and imbed quality conscientiousness throughout the industry. Provide the necessary framework to develop, instil and monitor quality standards in all facets of the kava value chain.
- **Objective 2:** Develop and establish a nationwide planting program to ensure consistent and sustainable supply. Provide the framework to ensure an increase in kava production to consistently meet export and local demand.
- **Objective 3:** Engaging the market. Develop a framework that ensures that kava produced meets internal and external market expectations and encourages value adding
- **Objective 4:** Embrace the future by being proactive now. Provide a framework that will ensure that Vanuatu is at the forefront of research and development issues for kava.
- **Objective 5:** (Supplementary) - Develop a strong regulatory framework. Provide a legislative framework to ensure the establishment of a formal kava industry with clear regulations and procedures on how the industry is developed to achieve the stated vision.

The time to act is now, there is sufficient knowledge in the country to implement the strategic objectives, there are sufficient training materials available to get basic farmers training modules developed and there are sufficient resources available to start the work.

What is needed now is leadership and work!

Lots of work!

Annex 4: Gender Equity and Social Inclusion in the Kava Value Chain

Overview

Women are very active in the kava value chain but mostly at the lower end as farmers. This contribution is largely unacknowledged and in some instances denied completely by men, not in an attempt to conceal but purely because they do not seem to see what women do.

While many customs that generally oppress women remain intact, customs around women's roles in kava have changed just as kava consumption has changed. Historically, in some provinces, e.g. Malampa, women were forbidden from farming kava, selling kava, making and serving the drink or working in kava bars (nakamals). In other provinces, e.g. Tafea, it was the role of girls or boys to chew the kava root to soften it enough for mixing with water - though it was not acceptable for women to drink kava. Now there do not appear to be any taboos in any provinces, and involving women, in particular in farming, is necessary to keep up production. In some villages visited for this assessment, women openly admitted to drinking kava even though their husbands denied that they did. In the urban areas, it is increasingly common for women to attend nakamals. Overwhelmingly though, men are the main consumers of kava and consumption by men is on the increase, largely due to accessibility influencing a change in kava drinking custom. While this contributes to increasing demand and price, social consequences are increasing also.

The 2016 Mini Census found that 17% of households (9,664) are headed by a woman: see Table 6. Roughly one-third live in urban areas (2,722) and two-thirds in rural areas (6,942) (VNSO, 2017:61). Female headed households are usually amongst the more vulnerable population due to lower earning capacity. The household head may be a widow with little or no income earning capacity or a single parent who must balance economic activity with household labour and child dependency. The 2010 Household Income and Expenditure Survey (HIES) reported that only 32% of female headed households had an income compared to 36% of male headed households and the monthly income of female headed households was only 70% of male headed households. (VNSO, 2012:36). As a vulnerable group, ways could be found to target these households to produce cash crops, including kava, where access to land is available. Nursery operation may be a viable entry point.

A 2009 report to the World Bank stated that addressing gender inequalities is important in Vanuatu because the country has one of the lowest social indicator rankings in the Pacific. The benefits of having women actively engage in the economy flow not only to them but also to their families, communities, and ultimately to the country. Further, as women gain control of money and household budgets, the amount spent on education, health, and nutrition increases (Bowman et al, 2009:5). Countries with higher equality have better economies and less poverty (Bowman et al, 2009:4). Investing in women and gender equality makes sound economic sense (Op cit).

Value Chain Entry Points for Women

Current entry points for women in the kava value chain are the same as those for men and include:

- Kava farmers
- Selling to kava bars in Luganville and Port Vila
- Village agents and transporters
- Kava bar owners/managers
- Exporters
- Export processing workers
- Laboratory technicians (government)

- Extension officers (government)

Kava Farming

Women farm kava as part of family units, though there are some exceptions where women farm their own land on their own account. The 2016 Mini Census identified 17,893 kava growing households (see Annex 4, Table 8) so it is reasonable to assume that at least that number of women are involved as kava farmers, possibly more if daughters play a role. Tasks identified by women are the same tasks identified by men: preparing the land; planting; weeding at appointed times over the growth cycle; harvesting; carrying the root to the village; cleaning the harvest; chopping and drying a portion for chips; and bagging the kava for shipping.

Women sell kava to agents in the village and a much smaller number of women are involved in selling to buyers in Santo and Vila. Small amounts of kava - one or two kilos as root or dried chips - are often sold for a specific purpose such as paying school fees or meeting a household or personal need.

Moving more farming women up the value chain will be challenging, mostly due to discriminatory social norms. One opportunity exists with nurseries, especially for the most vulnerable female headed households. Scaling up kava planting will require the propagation of a lot more seedlings of the preferred varieties. Women in strategically located villages could be trained and supported to establish nurseries to propagate and sell kava seedlings to farmers. Nurseries would also assist in monitoring the quality of plant material and keeping stock of the quantity of kava in the ground; two activities identified in the National Kava Strategy 2015 - 2025. Training for women on the practicalities of kava nurseries would be required but also training on business and financial management - an area that most women requested more generally. The TVET Skills for Economic Growth program and the Chamber of Commerce could provide the training. The Kava Industry Working Group/Association should work with DARD on developing a program of support to women to establish nurseries. If government funding is not available, donors may be willing to assist on the understanding that the nurseries would become self-sustaining after the first year.

Women kava farmers require the same access to knowledge as men kava farmers, especially as kava is primarily farmed in family units. Similarly, when it comes to other crops, livestock or forestry the potential for improvement is undermined by training activities focussing on men without pursuing ways to improve the participation of women. Training providers have a responsibility to take extra measures to engage village women, either in separate parallel training or by creating the right environment for women and men to train together. Excluding women, as often happens now, undermines the potential for optimal results.

Ways to support women to attend training include: (i) providing the training in more villages so that women spend less time walking to the training venue; (ii) providing transport where (i) is not possible; (iii) consulting women on what days and times they would be willing to attend training; (iv) providing supervised childcare in the village or at the venue; and (v) arranging catering so that it doesn't draw the women away from the training, e.g. by organising elders to do the catering or other possibilities.

Every effort should be made to ensure that women and men with disabilities are included in training, also, because it is evident from village consultations that many play a role in farming generally, including kava farming.

Selling to Kava Bars in Luganville and Port Vila

Some women kava farmers play a role in selling green kava to kava bar owners in Luganville and Port Vila. Fuller investigation would be required to estimate the number of women taking on this role but it appeared from consultations that those who do are exceptions. It is mostly men who play this role but in some of the villages visited for this assessment it was found that a few women from individual family units travel with the kava to the urban areas to transact sales. Proceeds of sales return to the family unit so there is no additional

monetary reward for this work, but it does place women in an authoritative role during the sale process and allows them to expand their business knowledge.

Kava may be sold in the Luganville produce market but there is a local ordinance in place in Port Vila that prevents kava sales at the Port Vila produce market. Instead, a separate roadside market operates Monday to Saturday at Namburu, a suburb of Port Vila. At the Namburu market, 20 or more individuals sell only kava - mostly green - primarily to small kava bar owners operating in Port Vila and less often to individuals for home processing and consumption. Kava is sourced from outer islands through family connections. Only a small number of sellers are women and while sales would provide income, in the form of commission, the amount would be relatively small compared to further up the value chain. None-the-less, women are engaged in the kava economy in this way and may develop business knowledge as a result.

Kava Bar Owners/Managers

Once dictated by custom as a male-only domain, increasingly women are establishing kava bars in the urban areas, often with support of male family members. There is no accurate record of the number of kava bars in the two urban areas so it is impossible to identify the number of women owner/managers unless a comprehensive survey is undertaken⁸. This assessment was unable to establish the proportion of women-owned bars to men-owned bars but two women-owned bars were visited: one in Port Vila and one in Luganville. The owners had sought business management training early in their development and are using trusted relationships to source green kava. One bar is small in size and turnover and the other is medium sized. Both have regular clientele and no shortage of customers. The one in Luganville commenced as a very small operation with a table by the roadside. Profits were invested into developing an establishment with seating and tables, dim lighting and running water to rinse out cups and equipment. A small general shop is operated on the same property.

Both women and men work in these kava bars for low wages. Tasks include preparing the juice, serving, taking cash and cleaning.

One owner had, in the early days, met with discrimination from a small number of men refusing to be served by a woman. The men were politely advised that they were free to go to another bar but they chose to stay and made no further fuss about being served by a woman. In this instance, kava was a mechanism for weakening a gender stereotype and it is interesting to note how easy that was when it came to a desired recreational substance, despite how steeped in custom kava drinking has been in the past.

Another opportunity that has opened up for women is the sale of food in kava bars. Once unheard of to eat before or during the drinking of kava, the concept was introduced from New Caledonia and rapidly caught on. Now most kava bars in urban areas have a food sales table run by women.

Women establishing kava bars have opportunities to move further up the value chain, develop financial management and business skills and be in decision-making positions - all of which are desirable. At the same time, as kava drinking becomes more accessible by locations and by extended opening hours, social issues are reported to be escalating⁹.

In some cases, more household income is being spent on kava drinking leaving less for household needs, paying school fees or saving for bad times. Sometimes the financial strain placed on the household leads to domestic violence or, in the worst cases, the breakdown of the family unit. Both women-owned and men-owned kava bars may need to take stock of the expanding competition and its consequences for economic viability, and the social impacts on the families of customers who abuse kava.

⁸ Some participants estimated as high as 700 bars in Port Vila and 300 in Luganville.

⁹ Interview with staff at the Vanuatu Women's Centre.

Women Exporters

There are 23 kava exporters registered with the Vanuatu Commodity Marketing Board (VCMB). Eight of those are women and one is a married couple who operate the business together. Not all women exporters were interviewed but of those who were, two reported attempts by male exporters to shut them down when they first moved in to exporting. One male exporter also reported threats from another male exporter and advised of a court case that is pending.

Women exporters work in different ways to men exporters. Women consulted tend to have smaller exporting operations and have developed trusted relationships with both kava farmer suppliers and importers. They are not looking to scale up by developing contacts with other importers but are willing to increase quantities supplied to existing buyers if their farming networks grow larger quantities. One woman has only one importer in the USA and is comfortable with the level of kava supply she ships twice annually. She sources kava from her home island through family contacts. The larger export companies run by men tend to have no direct relationships with kava farmers and procure supplies through agents.

Women exporters also tend to have other businesses, often in the tourism sector. For instance, one woman exporter owns a boutique tourist apartment block in Port Vila. The exporting couple has commenced small-group tours of their processing facility and warehouse that includes an introduction to the different types of kava, being taken through the washing, drying, grinding and packaging processes and a small shop on site where tourist could purchase ground kava to take home. Handicrafts from kava farming communities are also available for sale.

Generally speaking, it appears that the women exporters have developed their own niches that are not a threat to larger exporters but instead are identifying new market entry points. There is potential for more women to develop their own niches but a substantial amount of working capital is required for purchasing kava and shipping overseas.

Systemic barriers to women moving into exporting were identified as the licencing process, registration, criteria, biosecurity clearances, phytosanitary export licenses, and the complexity of forms that have to be filled in. The Vanuatu Women's Development Scheme (VANWODS) is willing to assist women keen to build up their kava-growing business—both with loans and technical support—but requires accurate information from the Department of Trade to pass on to women farmers. PHAMA may be able to assist by discussing the idea and inviting a representative from VANWODS to be part of the Vanuatu Kava Industry Association.

Export Process Workers

Exporters primarily employ women as workers in their processing operations because they have proven to be more reliable and better workers. Only an examination of employment records in all the warehouses would establish the actual numbers. These are mostly low paid jobs, though some women have moved up into supervisory roles. At least one exporter provides additional benefits to staff as an incentive to commit to the company and not move jobs. Incentives include school fees and medical support, especially where staff have been victims of domestic violence. These staff work in clean environments where protective clothing is supplied. Tasks include weighing kava root, washing roots, chopping and drying roots, grinding some root to powder, and packaging and labelling powder.

An informal discussion was held with a woman supervisor at one warehouse visited. The purpose was to identify how more women could move into supervisory roles. The supervisor was educated to Year 10 but had no tertiary training. Instead, she has a lot of work experience in small businesses where she learnt to pay wages, undertake recruitment and numerous other administrative management tasks. She commenced in the industry some years ago as a process worker. The supervisor was recruited by the exporter when the warehouse opened. She is married with four children but her husband is unemployed so he assists with

household work while the supervisor earns the family income. The supervisor is self-motivated with a strong ethical background that was instilled in her by her parents. The combination of self-motivation, work ethic and willingness to learn new tasks seems to have been key to her progress from a process worker to a supervisor. Contributing to her success is a stable family life and a supportive husband.

Even though kava processing work is low paid, it is an opportunity for women to enter the formal economy and to gain work experience. Processing facilities in urban areas provide income for women who may not have access to farm land for cash crops, so contributes to improved livelihoods.

Laboratory Technicians

Of the small number of lab technicians working in the kava industry, the majority (roughly six) are women. Laboratory technicians work for the Ministry of Trade's Food Technology Development Centre – Analytical Unit (FTDC-AU). They conduct analytical testing of kava root and powder destined for export to ensure the quality meets the required standards. The Analytical Unit also provides training to kava exporters on colorimetric testing to determine noble from non-noble kava before shipping export orders. Pre-shipment testing is important for destinations that have strict importation rules, such as the USA's Food and Drug Administration (FDA) to prevent shipments being rejected on arrival.

The majority of technicians at FTDC-AU are women but it is unclear why or how women have come to dominate this occupation. One suggestion is sharpness of colour vision when judging samples mixed with acetone for testing. New positions are likely to be created as existing and new importing countries become more knowledgeable about kava and demand pre-testing and certification of export shipments.

FTDC-AU makes recommendations to government on kava legislation and strategy, thus placing women in a rare influential decision-making position inside the industry.

Perhaps, at a future time, a private sector testing laboratory could be established and could create a business opportunity for women that would be higher up the value chain.

Extension Officers

There are only three women extension officers with the Department of Agriculture and Rural Development (DARD), out of 40 officers. One of those women heads the section and faces challenges in villages from men who are not willing to accept her authority or her knowledge. The structure of DARD is currently being reviewed internally with support from SPC. Ideally, DARD would like to have 72 extension officers, one for each area council. DARD should aim for approximately equal numbers of women and men officers to achieve the best results in supporting farming families. DARD should also set targets for attendance by women and men at training as it might assist men to see what women do and to accept expert advice from a woman.

As a mitigation action to reduce the social consequences of scaling up kava farming, training partners should include gender training elements in kava-related training. Doing so could lead to improving the enabling environment for women extension officers.

DARD has commenced working with farmers in strong kava producing communities to establish nurseries to assist with increasing production of the preferred varieties. There are seven farmer groups involved so far from different islands. DARD identifies a lead farmer for each group. All lead farmers are males. DARD should work towards having equal numbers of female and male lead farmers so that industry knowledge is shared more broadly.

DARD is interested in outsourcing nurseries to private individuals, in an effort to scale up nursery production, and is open to supporting women-owned nurseries. Nurseries are an opportunity to move women up the value chain, especially women heading households.

Snapshot of Women in Vanuatu

Females make up 49% of the total population of 272,459 as counted in the 2016 Mini Census. Three-quarters live in rural areas. The greatest number of females are in Shefa (36%), which includes the most populated island of Efate and the capital Port Vila. The least number of females are in Torba (4%). The sex ratio is 103 males to 100 females - highest Sanma 105; lowest Tafea 99. Thirty-eight percent of the whole population is under 15 years of age and 80% of those live in rural areas, slightly more than the national average of 75% (VNSO, 2017:1).

Custom

Men have cultural dominance in Vanuatu, said to be achieved through control of knowledge. Political leadership is perceived to be a masculine role and women's leadership in the community is largely overlooked (Bowman et al, 2009:21).

Women are responsible for household labour, including child care, community meetings and church activities, and economic activities such as growing and selling food at the market and making handicrafts for sale or, in urban areas, earning a wage. This is known in the literature as women's triple burden of production, reproduction and community management (Moser, 1991:27). Men tend to have productive roles in the formal and informal economy and undertake community activities but in quite different ways but generally men do not have a clearly defined reproductive role. This gender division of labour has been found to perpetuate female subordination because men's work outside the home is valued more highly than women's work within the home. In most economies women's household labour is not valued at all. It is only when women produce an income that their power to negotiate over household assets and welfare increases (Moser, 1993:26-29). That said, supporting women to play a stronger role in the economy has to be accompanied by activities to balance expectations in the home and society, without increasing the risk of domestic violence.

Land Ownership

A 2009 report to the World Bank Land stated that land legislation does not directly discriminate against women but customary landholding practices do (Bowman et al, 2009:47). Under customary law women usually have rights to use land but not to control or manage land (Bowman et al, 2009:48). The lack of ownership of land contributes to the subordination of women as it undermines the right to receive a share of earnings from land use and leaves women without collateral for access to financial services. A 2006 Vanuatu National Women's Forum and National Land Summit placed women's access to land on the national agenda (Bowman et al, 2009:50) and in 2013 a major land reform initiative commenced and is ongoing.

Political Representation

Vanuatu has had 12 governments in the last 10 years due to constantly changing allegiances that lead to a succession of votes of no confidence. There are 52 members of Parliament representing 18 constituencies who, under normal circumstances, serve for a four-year term. A snap election was held in January 2016 and, while 10 women (and 255 men) contested, no women were elected. Women's political participation rates are an international benchmark for gender equality.

The report of the Commonwealth Observer Group, which observed the election, noted that Vanuatu has one of the lowest levels of representation of female political participation in the world. Only five women have been elected to Parliament since independence in 1975. The Group was supportive of efforts undertaken by women's organisations to introduce temporary special measures and urged the incoming Government to

prioritise efforts to ensure greater participation of women at all levels of politics (Report of the Commonwealth Observer Group, 2016:13).

Ten women currently serve on municipal councils. In 2013, five women were elected to Port Vila Municipal Council as the result of a quota introduced by Parliament to the Municipality Act that provides for 30% to 34% of reserved seats for women in municipal councils (ADB, 2016:8). In 2015, five women were elected in the Luganville Municipal elections and one serves as Deputy Mayor. The Department of Women's Affairs was instrumental in achieving the quota and is now lobbying for the same quota in provincial elections¹⁰. In a first of its kind, in 2017 Sunai Village on Moso Island appointed an all-woman village council to administer village affairs.

Women in Leadership

In 2009, only 29% of legislators, senior officials and managers were women (ADB, 2016:10). More recent figures do not appear to be available. Unofficially, there are female chiefs in Vanuatu. The lack of official recognition seems to stem from histories written by early colonists that argued that ranks among women did not reflect the male chiefly system. This undermining of women's traditional leadership role has contributed to the oppression of women today. A study in 2016 identified female chiefs in eight islands. While interviewing Hilda Lini - the first woman member of Parliament - they were told that a women's chiefly system once covered most of Vanuatu, even places known for the dominance of men like Tanna and Malekula¹¹.

Women chiefs have never served on the National Council of Chiefs (Malvatumauri) but it seems that the door is open for women chiefs to be recognised in the not-too-distant future¹². This would be an important development and could result in women's profiles increasing to a point of national acknowledgement in senior decision-making roles. Women chiefs, once recognised as community leaders, may also have a role to play in the elimination of violence against women and children. It would be worthwhile for women to lobby for the acknowledgement of women chiefs.

The Vanuatu Christian Council (VCC) is also showing leadership in gender equality. VCC is the peak body representing the Catholic, Anglican, Presbyterian, Churches of Christ and Apostolic Church, with the Seventh Day Adventists as observers. In 2007, the VCC actively campaigned against the introduction of the Family Protection Act. The Chiefs and Church leaders were initially quite resistant, opposing public discussion of issues such as gender-based violence, family and sexual violence and women's leadership, arguing that while the Church respects the role of women as mothers, there is no place for women in church decision-making. Since then, the VCC has been working with the Department of Women's Affairs, UN Women and the Vanuatu National Council of Women to integrate concepts such as human rights and gender equity into Church policy and broaden the constituency of church leaders. In 2014, the VCC adopted a gender policy and since then women have been elected to the Synods of both the Presbyterian and Anglican churches. The Presbyterian Church, Vanuatu's largest church, also supported the introduction of reserved seats for women in Vanuatu's municipal councils (Barbara and Haley, 2014 in Haley and Zubrinich, 2016:15).

Women in the Economy

Available statistics in 1999 suggested that women own nearly 30 percent of all businesses and approximately 20 percent of small and medium-sized enterprises. Government support for women's economic empowerment and women in business was considered to be limited, and reforms needed to the general legal framework to ensure gender equality (Bowman, et al, 2009:7-8). Studies have shown that female employment is concentrated in certain categories: professional, technicians, and associate professionals (largely public sector workers); clerks, and service and sales workers while males dominate all categories, apart from clerks and service and sales workers (Bowman et al, 2009:70). Many women, particularly in urban areas, work as domestic servants. Tourism is an area where women are increasingly dominating as entrepreneurs. Tourist

¹⁰ <http://www.plp.org.fj/country-programs/vanuatu/>

¹¹ <http://www.islandlifemag.com/island-life-magazine/search-elusive-female-chiefs-vanuatu/>

¹² *Op cit*

guest houses and boutique resorts in the outer islands appear to be thriving and are mostly operated by women.

Women are a larger portion of the informal sector and work predominantly as open-air vendors and handicraft makers and sellers, running stalls by the road side and at the markets (Bowman et al, 2009:68) both in towns and villages. Women market sellers are usually farmers as well, growing the food that is sold at the market as part of a family unit. Women consulted for this study said they also harvested seafood for sale at the market and bred chickens for sale and for the sale of eggs.

In most rural areas only around one-third of those over 15 years have bank accounts. As table 5 shows, of those that do, more males (58%) than females (42%) have bank accounts; females have more non-commercial accounts (48%) than commercial accounts (40%) and males have more commercial accounts (60%) than non-commercial (52%). The uptake by women of non-commercial accounts may reflect the influence of various types of savings and loans schemes that are targeted at rural women.

Rural women have access to financial services through savings club schemes. The Vanuatu Women in Development Scheme (VANWODS), the National Bank of Vanuatu (NBV), and organisations like cooperatives and credit unions are providing financing to microbusinesses in Vanuatu without requiring collateral. The majority of beneficiaries are women. VANWODS is considered to have the most success in helping women obtain credit (UNDP, 2007 in Bowman et al, 2009:55). Sixty percent of loans are used for income generation by operating, for example, retail stores, sewing businesses, and kava bars (Op cit). A 2007 Impact Assessment found that 97% of members had a business whereas before joining VANWODS, only 28 percent of these women had a business (Bowman et al, 2009:56). VANWODS could be an important strategic partner for PHAMA in pursuit of supporting women to move up the kava value chain.

The National Bank of Vanuatu (NBV) operates a mobile banking service to deliver a microfinance scheme on several outer islands, involving 130 staff, many of whom tour rural areas on motorbikes. Nearly half of loans disbursed go into small trade, mainly village shops, and about 30% percent go into agriculture, livestock, and fisheries (Bowman et al, 2009:55). While only 15% of the loans went to women in 2009, NBV's partnership with VANWODS has provided a mechanism for the inclusion of more women.

The Credit Union League has been running a small number of savings and loan clubs aimed at women and the Department of Cooperatives does the same. The field team heard of a very successful club in a North Pentecost kava growing communities.

While access to the internet is currently limited outside of urban areas, Table 7 shows that 82% (45,540) of households said they had a phone in the house (VNSO, 2017:207), presumed to be a cell phone (urban 30% 13,676; rural 70% 31,864). This is a major form of communication in rural areas and could, with time, facilitate telephone banking and other services. If internet access improves, there will be opportunities for women and men kava farmers to directly market their crop through websites and social media. The picture for exporting could change as a result.

Violence Against Women

A 2011 prevalence study, based on data collected in 2009, found the current experiences of violence during the previous 12 months) to be 44% of women and the rate of lifetime experience to be 60%. Emotional violence by an intimate partner - behaviours such as humiliating, intimidating, and threatening harm - was one of the highest lifetime rates in the Pacific at 68% (Vanuatu Women's Centre, et al 2011: 16).

A Family Protection Act came into force in 2008 but knowledge and understanding of the Act is low, especially in rural areas, and enforcement is weak. The most recent prevalence study was conducted in 2009 by the Vanuatu Women's Centre, the main NGO supporting victims and advocating for the elimination of violence against women and children.

Traditional justice systems also often fail to deal adequately with cases of domestic violence. For example, *kastom faen* (customary fines, which can include mats, kava, or chickens) are often the punishment imposed in cases of physical and sexual assaults (Office of the Prime Minister, 2004, in Bowman et al, 2009:23).

Field Visit Summary

Two field visits were made for this analysis: one to South Pentecost (Pangi and Pannas) and one to middle and south Santo (Sarete, Narango, Mavunlevu and Fanafo). All of these are kava-growing communities. Consultations were also held in Port Vila and Luganville with relevant government agencies, NGOs and exporters, many of whom were part of the PHAMA-supported Kava Industry Working Group which is made up of government and the private sector representatives.

In village consultations, women's opinions were sought separately to men's and, where possible, women were taken aside for an open discussion.

It would be reasonable to generalise by saying that village life is hard in Vanuatu - as in most of the Pacific - due to a general lack of services such as good roads, access to transportation, ease of access to clean water and sanitation, access to health services and ease of access to education for children and young people. As a general comment, the South Pentecost communities seem to be worse off than the Santo communities, that is, their lives were impacted more by isolation and lack of services. The terrain is more rugged and most communities are established near the coast, though garden land is inland and often on sloping land. Both women and men walk for one to two hours each way to get to the gardens. Garden land is the acreages used for crop growing both for subsistence and cash, including kava. Pentecost is criss-crossed by rivers and streams that are prone to flooding during heavy rain, and heavy rain is common. There are no roads to the garden land and one community of women told the field team that they have to cross a river ten times to get to the garden.

When crops are harvested, they are carried to the coastal villages on the backs of both women and men for cleaning and preparation for the next stage - be that consumption, sale at a local market or shipping to Luganville and Vila for sale to larger markets. Surrounding villages appear to be close by but the rugged terrain and rivers can make the journey treacherous in a vehicle and even more so on foot, which is the usual means of transportation. Some children traverse these obstacles to get to school and back each day or don't go if the rivers are too high. There is no hospital on Pentecost so those requiring tertiary medical assistance must save up to fly from Lonorore airport to Luganville or Vila. Similarly, pregnant women wanting to deliver in a health facility must pay to fly to their hospital of choice, plus pay hospital fees of VUV 8,000 (AUD 95). In context, the hospital fee alone is the equivalent of 8-10kg of fresh/green kava.

South and central Santo have rugged inland terrain too but a much larger flatland area from the coastline that is not segmented by so many rivers. The further inland villages are the harder transportation becomes due to badly potholed roads. Exceptionally, in one community, a well-graded unsealed road had been built, with support from the local MP, expressly in acknowledgement of the potential export value of crops like kava. The second urban town of Luganville is in south Santo so villagers have easier access to health and other services, including the sale and shipping of cash crops. This reduces expenses, leaving more profit. Due to proceeds from cash crops, mostly kava, many families in the Santo communities own a 4x4 pickup truck, which makes transportation of both people and crops easier. Many of the other service constraints are in place though, such as access to clean water and sanitation.

Most villages on both Pentecost and Santo rely on solar power, which they install themselves from the sale of cash crops - in particular kava. One village that was visited in central Santo has mains electricity but only because the power plant for the district was built on land owned by this village. Generally speaking, mains electricity does not service communities away from the urban areas of Port Vila and Luganville. On a positive note, by introducing solar energy villagers have less reliance on expensive diesel fuel and kerosene. Not only are there cost savings but there are health and environmental benefits.

A cash income is essential for these communities. At the personal level, paying for medical attention is a primary reason but so is paying school fees. Other needs for cash income are to supplement the diet by purchasing other locally grown food at the market for consumption, purchasing imported foods such as rice, sugar, flour and noodles, buying clothes and household goods (pots, bedding, etc), and tithing to the church. Paying for electricity is another need, such as buying solar panels and probably diesel and kerosene to

supplement solar power during the rainy season. Finally, most communities say they put money aside for emergencies, including medical and environmental.

Cash is also needed for farming purposes. Almost everyone hires additional labour at various points during the growing season, especially at harvest. Cash is also needed for transportation, both road and shipping. Few said they invested in equipment for the kava farm but many in most places saw the kava farm as a business to expand on.

While communities visited are aware of the ever-increasing value of kava due to increasing demand, they are also aware of the need to find a balance between how much land to allocate to kava and the need to keep land for subsistence and for other cash crops. Environmental awareness is also a concern, with communities wanting to keep some land in a natural state.

On average, kava takes five years to mature - though some farmers harvest part of the crop after three years to make drinking kava and to sell to kava bars in Luganville and Vila. During the kava-growing years, communities need to maintain a cash flow with other cash crops. Other cash crops include root vegetables, such as taro and kumala (sweet potato), and coconuts for sale or for processing as copra. None of the communities visited grew cocoa, vanilla or coffee - three main national export commodities apart from kava. Some are foresting mahogany and sandalwood intended for export. All have livestock of some sort, even if only pigs and chickens, but some have small numbers of cattle. Some of the livestock were for sale purposes but other purposes were for consumption and for ceremonial occasions¹³.

All communities expressed a desire to grow more kava and all but one community said there was more land available. One community on south Pentecost reported that there was a shortage of additional land to increase kava production. Constraints to increasing kava production identified by most participants were: (i) customary land ownership disputes, with land being left fallow until ownership was decided and deciding ownership could take decades; (ii) no roads to the more remote gardens; (iii) no trucks (south Pentecost groups); and (iv) lack of equipment and tools, e.g. tractors to prepare land, shovels and axes to clear land, etc. Some participants said they were too busy with current farming and community responsibilities and, for women, with household labour on top of these two.

Very few participants identified the need for training as a constraint to growing more kava, even though there was an apparent lack of understanding of optimal growing techniques, such as planting a field over several months so that the kava (or other crop) matures at different times providing continuity of cash flow and avoiding flooding the market.

Representatives of the KIWG had visited all villages to provide training on how to recognise the different varieties of kava so that they could focus on growing the noble varieties that were acceptable for export. Most communities said they no longer grew the non-noble varieties but one community said they still grow tudei kava for personal consumption.

On Santo, kava farmers tend to have direct relationships with exporters and kava bar owners. On Pentecost no contact with exporters was mentioned but there were relationships with kava bar owners in Luganville and Vila. These are primarily through family contacts. Pentecost farmers sell kava to agents. Many are happy with the arrangement though some expressed an interest in having a direct relationship with an exporter or in forming cooperatives to take over exporting. The latter would be much harder to arrange due to the relative remoteness of Pentecost but could become a possibility in the future once internet technology is more widely available.

Activity Patterns of Women and Men

Women's days are 2.5 hours longer than men's and were focused in the home and in the garden, as are men's. Women spend one hour less than men in the garden (productive role) due to leaving later because of household chores (reproductive role). Both women and men said they prepared and cooked meals, which may

¹³ Ceremonial uses were for deaths, marriage bride-price and pig-killing ceremonies to acquire customary status.

be a shared activity. Childcare is mainly the responsibility of women. Men seem to go to the nakamal early in the evening (recreational time) while women go to church and then supervise children's homework (community and reproductive responsibilities).

This is a fairly typical pattern of daily activities that is seen in most rural villages in most parts of the Pacific. Men's working day is shorter and is consumed by productive work, followed by recreational time with other men. Women's days are longer and are consumed by productive, reproductive and community roles - known in the literature as women's triple burden - with little or no recreational time because evenings are often spent making handicrafts (productive role).

People with Disabilities

Physical disability was the most common type of disability identified in villages, though there are a few with sight, speech and hearing problems. People with disabilities are said to do paid work in the form of kava labour, including planting, washing/sorting and selling. Unpaid work done by people with disabilities includes gardening and housework.

Key informants advised that land owners with disabilities face financial inclusion difficulties in relation to repaying loans taken to hire labour. Assistance is required to get the kava crop to the middleman because roads are bad and those with physical disabilities can't walk very far. In the opinion of these informants, people with disabilities are consumers of kava so they deserve to have opportunities in the value chain.

Household Decision-Making

Initially, both women and men said that household decision making is shared by husbands and wives. In later discussions it emerged that, in some households, if there is a difference of opinion, the husband makes the decision. Some women later commented that the kava money belongs to the man and the woman had to ask for money to pay school fees and meet household needs, or pay for those out of vegetable sales at the local market.

In other households, women said they received a share of the kava income to use for household needs and school fees. Some women involved in savings clubs use kava money to make their weekly deposit.

Given that women work as hard as men on the kava farm, plus provide the bulk of household labour and child care, it is regrettable that not all women have their work acknowledged by sharing in the proceeds. This usually reflects the belief, by some men, that women are subordinate.

Interestingly, both women and men say that women are better money managers. Women are seen to spend money wisely while men are seen to waste money on drinking kava and buying cigarettes and alcohol.

Access to Training

Both women and men are aware of a kava training provided by the KIWG based on some elements of the National Kava Strategy, with a focus on growing for export. In one community, roughly 200 villagers were said to have attended (170m, 30f).

A range of other training has been provided but differences emerged in the training men identified and the training women identified. Men identified many more trainings, which were mostly focused on commercial activities. Women identified fewer trainings and only two were focused on income generation. The other two were focused on health issues and disaster risk reduction.

Financial literacy training has been provided by the National Bank of Vanuatu, which women said included crop planting. The National Tourism Office provided tourism training, the Maritime College training on fisheries, and the Fisheries Department on fish farming. The Chamber of Commerce has provided training on taro planting and pig farming training was provided, though the agency was not identified only the trainer. Women did not

mention any of these trainings. None appeared to be aimed at the export market, more for local markets and family consumption.

Only one NGO had provided training and that was on water supply and sanitation, plus a joint training with Vanuatu Christian Council on disaster risk reduction. In two communities, the Church of Christ Conference had also conducted workshops on giving, and how to support the work of the church. Lastly, a nurse had been to one village to do medical checks and raise awareness on cleanliness.

Other than training, supports received were water pipes, cement, wire and fish fingerlings.

Marketing training was requested and assistance to connect to exporters or become an exporter; also, business training including financial management and nutritional balance, “not just planting kava and no vegetables”. Advice was requested on how to select land and not destroy balance (environmental) or cause trouble (land disputes).

Why Women Don't Attend Training

Women are involved in household chores and child care and this prevents them from attending training. It was also said that women prefer to keep up with their work in the garden than spend time at training. It was also suggested that women were not interested in attending or too lazy to attend. Some participants thought that the training subjects were for men only and sometimes there was agreement at home that only the man would go. It was also said that men look down on women (subordination of women) and stop them from going to training, and that men get jealous if women attend training. A south Pentecost group added that distance to the workshop venue prevents women attending if it is too far to walk. Fear of evil practices was another reason, along with bad weather, can't cross rivers, have to carry kids. One comment was that women are free to go. Another comment was that women look after livestock as much as men do but they had no voice at the livestock training offered earlier in the year.

Men commented that sometimes only leaders are invited to trainings or consultations, which excludes women and other men, and if they don't see results they don't go next time. Also, if the day before has been a community work day few women or men can go to a workshop because they have already missed a day in the garden.

PHAMA does not normally work with communities directly, but agencies that do need to give consideration to planning training dates with community leaders so that there are no clashes, such as community days; providing transport if the training is to be held too far away or holding more than one training on the same subject in different locations; and making sure that communities see worthwhile outcomes. Consideration could also be given to having childcare close to the venue, such as an informal play group where elders are paid to keep the children occupied. Regarding gendered roles that prevent women from attending, gender awareness for the community, prior to an intervention, is essential to improve issues of women's subordination and the sharing of household labour.

Strengths and Weaknesses of Farming Kava

Women and men were asked what the benefits have been from being involved in the kava value chain and what potential factors need to be taken into account as part of risk management in relation to increasing exporting. As communities were engaged at the lowest end of the value chain, comments tended to focus on the personal, not the professional.

Benefits of kava identified by men related to an improved household economy. Kava solves the needs of the home and provides travel opportunities. Kava also provides work (employment of labour). Drinking kava, instead of alcohol, reduces violence and provides social opportunities at the nakamal. Other benefits identified by men were having money generally, as well as money to pay school fees and meet commitments for customary ceremonies such as marriages and funerals. Kava is also used as a customary gift along with money. Lastly, kava is good to drink.

Negative impacts related only to drinking too much kava. Men said that drinking too much in the evening interfered with work in the garden and the land is neglected. If too much kava is drunk there is less to sell. Kava drinking can lead to arguments at home if the wife objects to her husband's habits. Lastly, men commented that there had been an increase in land disputes since kava became more valuable. Another negative was that kava takes up a lot of land and ties up land for five years. Other consequences were the absence of men at church activities and meetings (from going to nakamal) and it causes deaths, divorce, children dropping out of school if fees are not paid, not spending enough time with the family due to kava drinking, others steal their kava, drinking kava makes them feel fatigued the next day, and there is no money left after drinking kava at the bar.

Women see their kava activities as a business but women's comments also focus on an improved household economy. Kava is a source of cash and pays school fees. Kava gives women opportunities to travel to other islands or even overseas. When asked, women said they travelled to Santo or Vila for medical reasons or to visit family. Money earned from kava is used to transport seriously ill family members to hospitals in either Santo or Vila, also the injured and pregnant women. Money is available to buy clothes and kitchen utensils and to pay labour to help in the kava or food gardens. Kava money is used to buy medicines and is used for customary ceremonies. Kava is seen as part of their business that benefits the community. Kava is seen as medicine to relieve stress and hypertension and surprisingly, one group of women also said that kava is good to drink. This is a fairly new phenomenon for women - outside of Vila and Luganville - to openly admit to drinking kava.

Many of the negative comments made by women related to drinking too much kava. Women commented that when men drink too much they become lazy and sleep all day and abuse of kava leads to ill health. They don't think about the future needs of the family that kava money provides for. Another issue was that more kava is being planted at the expense of other food crops, the husband is the boss of the kava money, the husband digs too much kava from the garden for drinking (rather than selling), and the money is not being tithed to the church. Another comment was on kava causing arguments at home and one community raised the issue of domestic violence quite strongly. There was also a concern that the money men make from kava can result in men abandoning families. This was a reference to an incident where a local man established a personal relationship on Santo and left his family. Drinking too much kava results in the man not being in control of the home, which was assumed to mean issues such as not supporting the wife or helping with the house and not bringing up the children, men steal mature kava from the land, it results in land ownership disputes and men don't go to church from sleeping too long. The final comment was on kava-related deaths. There had been a recent drowning in one of the many rivers, of a man who was drunk on kava.

In summary, while kava has improved livelihoods in the village it appears from this small sample that there are negative consequences in relation to food security and land disputes. There are also social consequences in relation to growing more kava if it leads to men drinking more kava in the evening or taking the earnings and abandoning the family. Excessive drinking of kava by men is seen to be undermining family cohesion and, in some cases, drinking all the money earned from selling kava rather than using earnings to benefit the family or build the business.

These potential social consequences related to growing kava could undermine family and community well-being, as well as kava farming if growers reduce activity levels as a result of over-consumption. PHAMA's work could be impacted if efforts to stimulate production have negative social impacts. Partner agencies working at the village level on increasing kava production need to have mitigation strategies in place, such as various types of social strengthening training, to prevent negative consequences.

Conclusions and Recommendations

PHAMA will need to take a "do no harm" approach to supporting the increased production and export of kava. DFAT's "do no harm" approach covers, amongst other areas, the sustainable management of the environment as a cornerstone of long-term economic growth and social development, and protection of the health, welfare and livelihoods of people including women, children, people with a disability and indigenous peoples¹⁴.

¹⁴ <http://dfat.gov.au/aid/topics/safeguards-risk-management/environmental-protection/Pages/principle-1-do-no-harm.aspx>

PHAMA can adopt the “do no harm” approach through strategic partnerships with an expanded range of partners that can guide the program on social and environmental issues. Included in these partnerships could be the Vanuatu Women’s Centre, which works with communities on strengthening social values and reducing violence against women and children; the Vanuatu Women’s Development Scheme (VANWODS), which runs a microfinance scheme targeting rural women and includes training on the balance of household labour and eliminating violence against women and children, and a more directed relationship with extension officers employed by the Department of Agriculture and Rural Development (DARD).

PHAMA could seek ways to increase the number of women exporters by examining how existing women exporters operate and considering ways to replicate these approaches and the potential to find new niche markets.

PHAMA does not generally intend to work with farming communities directly, but partner agencies that do so will need to give consideration to planning training dates with community leaders so that there are no clashes with other social obligations, such as community days; providing transport if the training is to be held too far away, or holding more than one training on the same subject in different locations; and making sure that communities see worthwhile outcomes. Consideration could also be given to having childcare close to the venue, such as an informal play group where elders are paid to keep the children occupied. Regarding gendered roles that prevent women from attending training, gender awareness for the community, prior to an intervention, is essential to improve issues of women’s subordination and the sharing of household labour.

The initial focus of PHAMA’s work was higher up the value chain rather than the grower community. However more recently PHAMA’s attention has shifted to kava supply and quality issues at the village level through support for nursery operations, awareness raising on kava varieties, etc. It is important that those working at the village level on increasing production are aware of the risks related to food security, land disputes, excessive kava consumption, and household financial management. Hence efforts by PHAMA and others to support increased kava production to meet domestic and export demand need to integrate various types of training that may assist to mitigate the potentially negative social consequences.

Attachment 1: Gender and Social Inclusion Statistics

Table 1: Distribution of Female Population Across Provinces

Province	Female Population	% Spread of Total Female Population
Total	134,194	49%
Urban	33,243	25%
Rural	100,951	75%
Torba	5,008	4%
Sanma	26,283	19%
Penana	15,985	12%
Malampa	20,239	15%
Shefa	48,061	36%
Tafea	18,618	14%

Source: VNSO, 2017: 1

Table 2: Main Source of Household Income by Province

Province	Wages/Salary	Land Lease	Remittances	House Rent	Fish/Crops/Handicrafts	Own Business	Other	None
Total	22,413	185	5,688	1,046	33,304	12,894	3,850	535
Urban	12,204	31	721	762	1,933	2,944	285	67
Rural	10,209	154	4,967	284	31,371	9,950	3,565	468
Torba	350	3	118	33	1,690	572	358	50
Sanma	4,122	83	425	146	6,020	2,820	876	96
Penana	1,141	12	542	18	6,035	1,692	275	64
Malampa	1,339	12	1,956	45	6,895	2,151	1,235	161
Shefa	14,060	68	1,577	762	6,735	4,578	819	74
Tafea	1,401	7	1,070	42	5,611	1,081	287	90

Source: VNSO, 2017:227-8

Note 1: There is a calculation error in the census for Fish/Crops/Handicrafts. The provincial breakdown equals 32,986, not 33,304.

Note 2: "Other" is not explained.

Port Vila recorded the highest number of households with income from Wages/Salary (9,810). The surrounding villages in commuting distance, although considered rural, added another 3,319 households (Mele, Ifira, Pango, Erakor and Eratap) (VNSO, 2017:228). The capital is the headquarters of government and non-government organisations. There is also considerable tourism infrastructure that employs staff in hotels, casinos, restaurants and tourist activities. Luganville, the second urban area, recorded 2,394 households and Wages/Salary was by far the main source of income for households (VNSO, 2017:227).

Table 3: Female and Male Education Attendance 2016 Mini Census

Type	Total	Female	Fem %	Male	Male %
Preschool	18,691	8,934	48%	9,757	52%
Primary	46,093	22,167	48%	23,926	52%
Junior Secondary	6,804	3,277	48%	3,527	52%
Senior Secondary	3,440	1,748	51%	1,692	49%
Tertiary	1,161	500	43%	661	57%
Vocational College	793	346	44%	447	56%
Professional Training	594	260	44%	334	56%
TOTAL	77,576	37,232	48%	40,344	52%

Source: VNSO, 2017:71 & 73

Note: There are miscalculations either in the female/male breakdowns or in the Population data on page 69 of the Mini Census, which reports a total of 78,897.

Females are slightly under-represented in education (48%) overall, more so in tertiary and vocational education. Regrettably, 11.2% of children 6-13 years old were not enrolled in school at the time of the Mini

Census—highest Tafea 20.4%; lowest Urban areas 5.7% (VNSO, 2017:1) which may be due to an inability to pay school fees.

Type	Total	Female	F %	Male	M %
Employed	43,571	16,371	38%	27,200	62%
Producing Goods	51,413	25,469	49.5%	25,944	50.5%
Unpaid Work	46,296	29,480	64%	16,816	36%
Economically Inactive (excluding full-time students)	5,003	2,506	50%	2,497	50%
Total	146,283	73,826	50%	72,457	50%

Source: VNSO, 2017:77 & 80

Unpaid work was described as “family business/plantation” and “help with basic household duties” (VNSO, 2017:232).

Fewer women (38%) were employed than men (62%) and more women (64%) were engaged in unpaid work than men (36%).

Type	Total	Female	F %	Male	M%
Commercial	49,037	19,674	40%	29,363	60%
Non-Commercial	14,187	6,876	48%	7,311	52%
Total	63,224	26,550	42%	36,674	58%

Source: VNSO, 2017:81 & 83

Only 36.4% of the population over 15 years old have bank accounts and most of those are in urban areas or Shefa Province, likely to be rural Efate where there are more services. In most other rural areas around one-third of those over 15 years have bank accounts, except for Tafea where only one in five have bank accounts (VNSO, 2017:1). As table 5 shows, of those that do, more males (58%) than females (42%) have bank accounts; females have more non-commercial accounts (48%) than commercial accounts (40%) and males have more commercial accounts (60%) than non-commercial (52%). The uptake by women of non-commercial accounts may reflect the influence of various types of savings and loans schemes that are targeted at rural women.

There is no government-funded social welfare scheme but in 1986 the government introduced a compulsory saving for retirement scheme called the Vanuatu National Provident Fund (VNPF) retirement fund, which is compulsory for employees in the formal economy aged 14 to 55 years. The contribution rate is 4% employee matched by 4% employer of monthly salary. Of the 36,231 registered members 39% are women (female 14,105; male 22,126) (VNSO, 2017:85) because fewer women are employed in the formal economy; therefore, many women have no access to retirement funds when they are no longer economically active.

Province	Total HH	Number FHH	%
Torba	1,960	347	18%
Sanma	10,704	1,623	15%
Penana	6,959	1,281	18%
Malampa	8,896	1,596	18%
Shefa	19,913	3,595	18%
Tafea	6,853	1,222	18%
Total	55,285	9,664	17%

Source: VNSO, 2017:157-8 & 161-2

Seventeen percent of households (9,664) are headed by a woman. Roughly one-third live in urban areas (2,722) and two-thirds in rural areas (6,942) (VNSO, 2017:61). Female headed households are usually amongst the more vulnerable population due to lower earning capacity. The household head may be a widow with little or no income earning capacity or a single parent who must balance economic activity with household labour and child dependency. The 2010 Household Income and Expenditure Survey (HIES) reported that only 32% of female headed households had an income compared to 36% of male headed households and the monthly income of female headed households was only 70% of male headed households. (VNSO, 2012:36). As a

vulnerable group, ways could be found to target these households to produce cash crops, including kava, where access to land is available. Nursery operation could be a viable entry point.

Table 7: Households with Mobile Phones and Internet by Province					
Province	Total HH	Mobile Phones	%	Internet	%
Torba	1,960	1,372	70%	85	4%
Sanma	10,704	8,617	80%	1,657	15%
Penana	6,959	5,705	82%	445	6%
Malampa	8,896	7,629	86%	546	6%
Shefa	19,913	18,978	96%	7,490	38%
Tafea	6,853	4,567	67%	325	5%
Total	55,285	46,865	85%	10,533	19%

Source: VNSO, 2017:225-6

While access to the internet is currently limited outside of urban areas, 82% (45,540) of households said they had a phone in the house (VNSO, 2017:207), presumed to be a cell phone (urban 30% 13,676; rural 70% 31,864). This is a major form of communication in rural areas and could, with time, facilitate telephone banking and other services. If internet access improves, there will be opportunities for women and men kava farmers to directly market their crop through websites and social media. The picture for exporting could change as a result.

Table 8: Kava Growing Households by Province			
Province	Total HH	Kava Growers	% Kava Growers
Torba	1,960	817	42%
Sanma	10,704	3,459	32%
Penana	6,959	5,429	78%
Malampa	8,896	2,695	30%
Shefa	19,913	1,257	6%
Tafea	6,853	4,236	62%
Total	55,285	17,893	32%

Source: VNSO, 2017:157-8 & 217-8

The census identified that kava is the second most commonly grown cash crop--excluding root crops: coconuts (23,164 HH), followed by kava (17,893 HH), cocoa (9,000 HH) and coffee (1,953 HH) (VNSO, 2017:217). The only islands that did not record growing kava were Ifira, near Port Vila and Aniwa in Tafea Province (VNSO, 2017:218). Of interest is that 508 households on Efate grow kava. A common belief is that no kava is grown on Efate, where the capital is, because of theft (VNSO, 2017:218).

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Annex 5: Value Chain Analysis

Table 1: Production Costs for one Hectare of Intensive, Non-Mechanised Kava Production (VUV'000)

Production and Sales	Note	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	Average
No of kava plants planted	a	8,000						8,000	
No of plants harvested	b			1,800	1,800	1,800	1,800	7,200	1,200
Yield per plant (kg fresh weight)	c			6	8	10	12		
Total production (kg fresh weight)				10,800	14,400	18,000	21,600	64,800	10,800
Labour Utilisation (person days)									
Land clearing		80						80	13
Planting		90						90	15
Weeding		20	20	20	15	15	10	100	17
Harvesting, washing and sorting:				50	65	80	100	295	49
Total labour (person days)		190	20	70	80	95	110	555	94
Value of Labour Used (VUV'000)	d	1,000 VUV/day	190	20	70	80	95	110	565
Other Cash Costs									
Purchase seedlings from nursery		250 VUV each	2,000						
Bags	e	5 VUV/kg		54	72	90	108	324	54,
Transport field to village	f	7 VUV/kg		76	101	126	151	454	76
Transport village to town	g	24 VUV/kg		259	346	432	518	1\$55'	259
Sea transport, outer island to Port Vila	h	45 VUV/kg		486	648	810	972	2,916	486

Notes

- a. Can be up to 10,000 but usually Mess
- b. 10% mortalities, remainder harvested in equal amounts over years 3-6
- c. Average of 2.0 kg per plant per year
- d. Combination of unpaid family and paid labour. Both valued at the rural wage rate
- e. Bags cost VUV 400 per 75 kg
- f. Hire of horse costs VUV 1,000 and carries two bags (150 kg)
- g. Costs VUV 1,800 per 75 kg bag
- h. Costs VUV3,500 per 75 kg bag

Table 2: Enterprise Model: Local Sale of Fresh Kava to Agent or Rural Nakamal

Local Sale of Fresh Kava to Agent or Rural Nakamal		Note	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	Average
Shrinkage, losses and waste	10 %	i			1,080	1,440	1,800	2,160	6,480	1,080
Sales (kg fresh weight)					9,720	12,960	16,200	19,440	58,320	9,720
Sales Revenue (VUIP000)	700 VUV/kg	j			6,804	9,072	11,340	13,608	40,824	6,804
Less Operating Costs										
Value of labour used			190	20	70	80	95	110	565	94
Seedlings			2,000						2,000	333
Transport field to village					76	101	126	151	454	76
Bags					54	72	90	108	324	54
Total Operating Costs (VUV'000)			2,190	20	200	253	311	369	3,343	557
Net Cash Flow (V1.11/000)			-2,190	-20	6,604	8,819	11,029	13,239	37,481	6,247

i. 10% losses between field and local point of sale

j. Sold to collecting agent or nakamal operator in home or nearby village

Table 3: Enterprise Model: Sale of Fresh Kava to Rural Town Nakamal

Sale of Fresh Kava to Rural Town Nakamal (VUV'000)		Note	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	Average
Shrinkage, losses and waste	20 %	k			2,160	2,880	3,600	4,320	12,960	2,160
Sales (kg fresh weight)					8,640	11,520	14,400	17,280	51,840	8,640
Sales Revenue (VW/000)	850 VUV/kg	l			7,344	9,792	12,240	14,688	44,064	7,344
Less Operating Costs										
Value of labour used			190	20	70	80	95	110	565	94
Seedlings			2,000						2,000	333
Transport field to village					76	101	126	151	454	76
Bags					54	72	90	108	324	54
Transport village to town					259	346	432	518	1,555	259
Total Operating Costs (VUIP000)			2,190	20	459	598	743	888	4,898	816
Net Cash Flow (VUIP000)			-2,190	-20	6,885	9,194	11,497	13,800	39,166	6,528

k. 20% losses between field and sale to urban nakamal

l. Transported to urban centre for sale to nakamal operators

Table 4: Enterprise Model: Sale of Fresh Kava to Nakamals in Port Vila

Sale of Fresh Kava to Nakamals in Port Vila (VLIV'000)		Note	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	Average
Shrinkage, losses and waste	40 %	m			4,320	5,760	7,200	8,540	25,920	4,320
Sales (kg fresh weight)					6,480	8,640	10,800	12,960	38,880	6,480
Sales Revenue (VUV'000)	1,000 VUV/kg	n			6,480	8,640	10,800	12,960	38,880	6,480
Less Operating Costs										
Value of labour used			190	20	70	.80	93	110	565	94
Seedlings			2,000						2,000	333
Transport field to village					76	101	126	151	454	76
Bags					54	72	90	108	324	54
Transport village to port					239	346	432	518	1,555	259
Sea transport, outer is land to Port Vila					486	648	810	972	2,916	486
Total Operating Costs (VUV'000)			2,190	20	945	1,246	1,553	1,860	7,814	1,302
Net Cash Flow (VUV'000)			-2,190	-20	5,535	7,394	9,247	11,100	31,066	5,178

m. 40% losses between field and sale to nakarnal in Port Vila

n. Transported by sea to Port Vila for sale to nakamal operators

Table 5: Enterprise Model: Nakamal Operation: Rural, Town and Urban

Amount of juice from 100 kg of fresh kava					
Age of kava (years)	3	4	5	6	Total
Percent of kava used	17	22	28	33	100
L juice/kg fresh kava	2	3	4	5	
Litres of juice	33	67	111	167	378
Gross Margin from Nakamal Operations			Rural	Town	Urban
Purchase price of fresh kava (VUV/kg)			700	850	1,000
Litres of juice per kg of fresh kava			3.8	3.8	3.8
Cost of kava in one L of fresh juice (VUV)			185	225	265
Sale price of juice (VUV/L)			650	700	750
Gross Margin (VUV/L)			465	475	485
Fresh kava used per day (kg)			5	20	50
Litres of juice per day (L)			19	76	189
Gross Margin per day (VUV)			8,778	35,889	91,667
Gross Margin per annum (300 days) (VUV'000)			2,633	10,767	27,500
Less Overhead Costs (VUV'000) per annum:					
Labour			188	540	1,080
Electricity			50	200	500
Miscellaneous			100	400	1,000
Overhead Costs per annum (300 days) (VUV'000)			338	1,140	2,580
Profit/Loss per annum (VUV'000)			2,296	9,627	24,920

Table 6: Value Chain Summary: Quantity of Kava Production, Export and Domestic Consumption

Production			
Total production from farmer's fields	tonnes fresh weight	32,000	35,000
Shrinkage, losses and waste: field to village	Percent	10%	10%
Total production at village	tonnes fresh weight	28,800	31,500
Exports			
Amount sold to exporters or exporter's agents	tonnes fresh weight	9,375	9,375
Shrinkage, losses and waste: village to export processor	Percent	20%	20%
Amount exported	tonnes fresh equivalent	7,500	7,500
Amount exported	tonnes dry weight	1,500	1,500
Gross Domestic Availability			
	tonnes fresh weight	19,425	22,125
Rural			
Amount auto-consumed or sold to rural nakamals	tonnes fresh weight	12,607	14,360
Shrinkage, losses and waste: village to rural nakamal	Percent	096	09:::
Amount consumed in rural areas	tonnes fresh weight	12,607	14:3150
Port Vila			
Amount sold to Port Vila nakamals	tonnes fresh weight	5,504	620:
Shrinkage, losses and waste: village to Port Vila	Percent	30%	30%
Amount consumed in Port Vila nakamals	tonnes fresh weight	3,853	4,388
Luganville			
Amount sold to nakamals	tonnes fresh weight	1,,313.8	L496.3
Shrinkage, losses and waste: village to Luganville	Percent	20%	20%
Amount consumed in Luganville nakamals	tonnes fresh weight	1,(}51	1,197

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