

WASH in the market house: A situation analysis of water, sanitation and hygiene services in market places in Vanuatu

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WASH in the market house

A situation analysis of water, sanitation and hygiene services in market places in Vanuatu

July 2021



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This report presents findings from a wider project entitled "Supporting urban food security and livelihoods through improving WASH outcomes for protection against COVID-19 in markets and food /agricultural chains: WASH, foodways, markets, women and COVID-19 in Vanuatu". The broad goal of the research is to better understand current levels of access to functional WASH facilities amongst food suppliers, vendors, and customers to improve hygiene and prevention measures against COVID-19 infection by building a shared understanding of WASH-related vulnerabilities across the food supply chain (from garden to market).

Research was led by the International WaterCentre (Griffith University) in partnership with The University of the South Pacific (Emalus campus) and World Vision - Vanuatu.

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Cover photo: Port Vila Municipal market house (credit: Krishna Kotra)

Other photos: The various photos in this report were taken by: Tima Allanson, Merianne Tabius, Cindy Buleling, Abigail Garae, Edmond Lango, Gayleen George, Damien Hophand, Heather Molitambe, Gorden Edward, Krishna Kotra, John Niroa and Hillary Garae.

Partners:



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Executive Summary

This report presents the results of research undertaken in thirteen fresh produce markets in the Republic of Vanuatu, located in Lakatoro (Malekula island), Luganville (Santo) and Port Vila (Efate) (Figure 1). The overarching research objective was to better understand the water, sanitation and hygiene (WASH) situation in a variety of market places, from central market houses through to smaller satellite markets, in order to identify WASH-related COVID-19 vulnerabilities, the types and effectiveness of preparation and protection measures undertaken in market places thus far, and to explore their impacts on market vendors.

Since the beginning of the pandemic there has been, as of June, 2021, just three active COVID-19 cases in Vanuatu - all of which have been detected in quarantine. Despite there being no community transmission of COVID-19 in Vanuatu to date, the pandemic has had a substantial impact on the country. The State of Emergency border lockdown and cessation of tourism has led to an economic recession, resulting in major job losses in the two main tourist centres of Port Vila and Luganville. Additionally, local and international remittances have greatly decreased. Whilst the government have implemented some economic support measures for small business this does not include market vendors. In response to the threat of COVID-19 the government have instigated a variety of public health measures that have directly impacted markets. These include an increased focus on hygiene (e.g. the installation of handwashing stations), social distancing guidelines, restricted selling hours and, in many but not all locales, a one-day-market rule whereby vendors are no longer permitted to sleep at markets. Combined with a general drop in demand for fresh produce due to the economic down turn, these measures are disproportionately impacting women, who make -up over 90% of market vendors. Results from this study affirm that vendors' income has decreased by half or more, with the greatest decrease experienced in Port Vila.

The case study is structured around four thematic areas:



COVID-19 Response



COVID-19 Impacts



COVID-19 Vulnerabilities



Enabling Environment

Elsewhere in the world, the COVID-19 pandemic has disrupted the availability of affordable and nutritional food services, and there has been some concern that this may occur in Pacific Island Countries and Territories (e.g. United Nations, 2020a). Recent research from Solomon Islands has identified increased food insecurity in both rural and urban areas (Wairiu et al, 2020). Markets are one of the top three sources of food for Port Vila residents (World Vision Vanuatu, 2018) and there is a fear that if markets closed, prices increase and/or food supplies were disrupted, this would detrimentally impact urban residents - many of whom are already amongst the most socio-economically vulnerable in the country (VNSO, 2013). Whilst this study did not gather household level data (and hence cannot ascertain if household food insecurity has risen) the data suggests that from a food systems perspective the impact of the COVID-19 pandemic has thus far been on the demand, rather than the production and supply, side.

Key Findings



COVID-19 Response

What national and local-level responses to strengthen COVID-19 prevention and containment have been undertaken in relation to markets?

“

Provinces have to prepare themselves, even the Area Councils and the communities. There should be a continuity of social distancing and health measures that are in the regulations for us to abide by, such as washing of hands. There should be hand washing stations, hand sanitizers

Provincial planner

They came and made awareness and encouraged the vendors to wash their hands

Market cleaner, Malampa

A social distancing of 1m was set by the regulation but I did 1.5m social distancing. Every morning and afternoon I reminded the mothers of the regulations – hand washing and hygiene. We had a plastic water container donated by Health for hand washing, but it was then improved to a permanent sink by ADRA

Market manager, Shefa

There was no singular set of regulations or practices found across **all** study markets other than communication (awareness / promotion about COVID and ensuring good hygiene). The Ministry of Health (MoH) has released guidelines for markets and vendors – among other public spaces such as Nakamals and Church's – and these include regular hand washing, keeping a safe distance, and placing hand washing facilities (with soap) at the entrance to markets (MoH, 2020a).

The main measures found across the case study markets were:

Communication (COVID awareness and hygiene promotion)

- Nation-wide government information campaigns on TV, radio, newspaper and social media
- Most markets had been visited by government representatives (Environmental Health/MoH officers, police in Luganville)
- In Port Vila, Wan Smolbag had visited some of the markets (E.g. Prima Road)
- MoH approved posters were distributed to most markets, but are only still in evidence in some markets
- A few market managers provide regular reminders to vendors to wash their hands (e.g. Freswota Park, the manager rings a bell)

One-day market (no sleeping, shorter hours)

- The central markets - Malampa market house (Lakatoro), Luganville and Port Vila main markets, have shifted to 'one-day markets', meaning no sleeping and shorter operating hours
- Most satellite markets in Vila allow sleeping at the market, although some have conditions (e.g. Seaside, no children or family members)
- At the smaller markets in Luganville, one-day-market rules vary: Tangara - vendors can sleep one night; Buni Buni - vendors sleep 2-3 days; PIM - no sleeping

Social distancing / less stalls

- Social distancing, in the form of less vendors and spacing between stalls (1.5-2m), was evident in many, but not all, markets
- There were restrictions on the amount of children and family members vendors could have at the market in Port Vila Central and Seaside markets

Hygiene stations (water and soap)

- MoH and NDMO issued a directive that handwashing stations be established at the entrance to markets
- There were handwashing stations with soap at all markets in Port Vila
- Malampa market house has partially completed handwashing basins (installed Sept. 2020) but they are not yet functioning
- None of the markets in Luganville had any handwashing stations

The national-level government response to COVID-19 has been timely, strategic, comprehensive and effective

At the market level the application of COVID-19 protection measures – such as installing hygiene stations and ensuring social distancing – was strongest in Port Vila (but still variable) and lowest in Lakatoro

Nearly half (48%) of all vendors surveyed thought that the actions taken by market management had been appropriate

The one-day-market / no sleeping at markets rule is widely unpopular

Outside of Efate hygiene stations were totally absent



COVID-19 Impacts

What are the impacts of the COVID-19 pandemic on market vendors livelihoods and on food security?

“

Before COVID-19, about 100 vendors would sell at the market. After COVID-19, the number is less because they are not allowed to sleep, so those who come from far places cannot risk the one-day market

Market manager (F) Luganville

Those that live far away, such as the West coast and Big Bay, only a few still come to the market

Market vendor (F) Santo

We are afraid to come to town and sell at the market, so now we don't have enough money for soap, rice, salt, and nappies. My children are no longer going to primary or secondary school

Market vendor (F) Santo

The decrease in number of vendors causes a decrease in food supply. They bring specific foods in bulk and there are no varieties. The prices have also changed [...]

It has become expensive

Market manager (M) Tangara

Livelihoods

- Market was the main source of family income for over 92% of the vendors' surveyed, the majority of whom were women
- 84% of vendors reported a decrease in income
- Vendor income has **reduced** by half or more across all markets (greatest decrease was reported in Port Vila, VUV11,955 to VUV4,777)
- Income reduction was primarily due to: less demand, more people selling the same produce (see Food security below), difficulty finding a place at market (due to social distancing rules), and struggle meeting transport costs (especially with one-day-market)
- Transport challenges were a recurrent theme with vendors in all locales reporting either a decrease in transport options, an increase in price, or both
- There were many stories of vendors, especially in Luganville, facing hardships after not earning even enough money to pay for their transport home

Food security (price & availability)

- 80% of vendors reported price changes due to COVID -19
- 58% of vendors reported an over-supply in key produce (mainly short-term crops, e.g. sweet potato, manioc, cucumber, cabbage)
- Respondents in Luganville reported the most changes in regards to both food availability and price
- Root crops such as taro and yam generally increased in price, but were in low demand
- In Luganville, vendors and market managers reported price increases (to meet transport costs), whilst most other markets reported a decrease
- Nearly half (43%) of all vendors reported changing what they grow and/or sold in response to COVID-19

Other impacts

Decrease in income has had flow-on effects that impact the whole family:

- Numerous vendors reported struggling to pay school fees (and two vendors explicitly stated that their children were no longer attending school) due to COVID-induced financial hardship
- The Vanuatu Women's Centre reported high demand for their counselling services
- The composition of vendors has changed: - many vendors who reside far away are no longer making market due to transport costs and the challenges of the one-day-market rule and there were numerous reports of people, having lost their job in the tourism sector, commencing marketing

Positive impacts?

Vendors were asked what, if any, positive changes may have occurred due to the COVID-19 pandemic. Key responses were:

- Improved hygiene awareness and practices
- People making more gardens
- Improved WASH at home
- More time with family
- Greater national self-reliance
- Less tourists
- People returning from town to the islands

84% of surveyed vendors reported a decrease in income (generally half or more), with the greatest decrease in Port Vila

Transport to and from markets and home was a recurrent issue in all locales

Income decrease has had significant flow-on impacts on vendors families

The main impact of COVID-19 on food systems in Vanuatu has thus far been on the demand rather than the production and supply side

Nearly half (43%) of all vendors reported changing what they grow and/or sold in response to COVID-19

There has been some positive effects, such as improved hygiene awareness and practices and an increase in home gardening, associated with COVID-19



COVID Vulnerabilities

What key vulnerabilities impinge on COVID-19 preparedness and protection measures?

“

There is water and a good toilet but the hygiene is bad. We are trying to improve hygiene. With the toilet, we notice that some women don't know how to use a flush toilet. A single toilet is not enough for the users, causing poor hygiene.

Market manager (M), PIM

We use water containers and water tanks to wash our hands. I usually ring a bell as a signal for hand washing time

Market Manager (F), Efate

Imagine this huge number of vendors with only two toilets and one bathroom each for males and females. It looks like a pigsty!

Market Association President, Santo

We need a better market house with better access to good water

Market vendor (F), Luganville

COVID-19 knowledge and protection measures

- 49% of vendors reported that management had provided some information on COVID-19
- Knowledge about COVID -19 was lowest in Lakatoro
- Vendors at satellite markets in Vila and Luganville had lower knowledge about COVID-19 than vendors at the larger, central markets
- Knowledge of protection measures (hand hygiene, social distancing) were lowest in Lakatoro and highest in Port Vila
- Customer protection measures (washing hands, not touching produce, social distancing) was highest in Port Vila, lowest in Lakatoro

WASH vulnerabilities - water

- Only 1-2 taps for 70+ vendors
- Tap water was from the water utility, or rainwater tanks
- Most vendors access water 2-3 times a day (highest in Vila [3 times], lowest in Lakatoro [1-2 times]), for drinking, handwashing, and washing produce
- Few taps, shared by many vendors, made social distancing difficult at busy times
- Satisfaction with water services was highest in Port Vila, lowest in Lakatoro

WASH vulnerabilities - handwashing

- Handwashing most often occurred at the water taps, though some handwashing stations existed in some markets. As for water, with only a few taps for many vendors, social distance can be difficult to maintain
- Soap availability at markets was relatively high in Port Vila, very low in Luganville and Lakatoro
- Soap use by vendors was low everywhere (highest in Port Vila)
- Market managers in Luganville and Lakatoro were not providing soap (reportedly due to cost)
- No handwashing stations in Luganville or Lakatoro

WASH vulnerabilities - sanitation

- All markets had toilets - but there was an insufficient number of toilets relative the number of vendors in most markets, also contributing to difficulties with social distancing

Water Quality - markets

- Some vendors relied on rainwater tanks at markets for drinking; 4 of the 5 rain water tanks tested were "unsafe" to drink

Despite information campaigns, some knowledge gaps remain – most notably in Lakatoro – suggesting that current COVID-19 messaging strategies are not cutting through in all places

In all but the Port Vila central market, there is not enough taps for the number of vendors to adequately protect themselves (1 tap for 70+ vendors)

Soap use remains very low

There was generally no soap available at markets outside of Efate

Satisfaction with water services was highest in Port Vila, lowest in Lakatoro

Many vendors are willing to pay a little more for their stall if management use the money to improve water and sanitation services





What people and organisations, including laws, policies, power relations and social norms, inform the WASH situation at markets?

“

If there is a market Committee then that is also a strength but it depends on the operation of that Committee, if they are not working then it is not a strength, it is a weakness that we have to revisit and revive it and strengthen it. Another strength is there are people in charge of water here on the ground, it is how we utilize them that matters. The water people, the waste collection people and the market Committee are our stake holders that we should utilize to improve the standard of hygiene

Provincial Planner (M)

We have signed an MOU with the municipality; we need to cooperate to solve our issues. Mothers who travel far have special needs that need consideration by the government. This association is working towards helping vendors from remote areas

Market Association secretary (F)
NIVMA

WASH service delivery, policy and responsibilities

- There are government policies that cover the delivery of WASH services (Provincial and Municipalities), and these include markets. In practice, the delivery of public services outside of Port Vila and Luganville is limited, and provincial governments and area councils remain highly constrained with regards to providing service delivery
- Donors and NGOs have provided considerable assistance with regards to market infrastructure improvements – including WASH services – but to date these have largely been concentrated on Efate and the main market in Luganville
- The local NGO Wan Smolbag has provided awareness on COVID-19 protection measures and hygiene awareness, in addition to GoV agencies
- 67% of market managers were male
- In Efate, market managers have been active in ensuring the provision of temporary handwashing stations (and supplying soap), but this is not the case in Lakatoro and Luganville
- It remains unclear how funds generated from markets are spent and what, if any, goes back into maintaining/improving the markets

Market Associations

- 36% of surveyed vendors were members of a market association
- There was no association in Malekula. In Santo, 71% of surveyed vendors were members of the Northern Island Market Vendor Association (NIMVA), which was established in 2014 with assistance from UN Women. Silai Vanua is the main market association in Efate.
- In Santo, NIMVA had been instrumental in many vendors becoming involved in markets
- Associations advocate on behalf of vendors but they do not have a formal policy or guidelines on WASH matters

67% of market managers were male – outside of Efate it was 80%

Individual manager motivation, combined with message saturation, appears to be a key determinant in why some markets have hygiene stations and others don't

Market associations have had a major impact on increasing vendor numbers (especially in Luganville)

The lack of hygiene stations at markets outside of Efate indicates that there remain challenges to providing a resourced and coordinated response across the breadth of the country

Stakeholder perspectives

Initial research results were presented at stakeholder workshops in **Luganville** (18th May), **Lakatoro** (20th May) and **Port Vila** (25th May).

Based on discussions following the presentation, key points echoed by participants across all three sites included:

- **COVID-19 awareness activities should be more regular because the 'rotation system' in place at many markets means there will be different vendors at markets each week**
- **Health authorities must demonstrate how WASH measures can be achieved instead of just using posters and talking – they need to recognise that vendor education levels vary**
- **There is no law or legislation to enforce any market-related COVID-19 protocols (meaning adherence is ad hoc and weak)**
- **There is no law or legislation protecting WASH infrastructure such as hygiene stations (meaning theft and vandalization cannot be punished)**
- **There needs to be more systematic monitoring of all markets by the health department**
- **Market management must provide soap in toilets**

Introduction

Research context



The Coronavirus disease 2019 (COVID-19) pandemic has shocked global and regional economies. Although the Pacific Island Countries (PICs) have recorded a relatively small number of COVID-19 cases – except in Fiji and Papua New Guinea – most countries have declared a state of public health emergency and implemented numerous mitigation measures, such as national border closures, lockdowns, curfews, and temporary restrictions on the movement of people and goods. Many PICs have a narrow economic base and have suffered from a decline in overall economic activity, disruptions to supply chains, and acute job losses (; ADB, 2020; Allen and Clarke, 2021; DFAT, 2020).

Even before COVID-19, market vendors in Vanuatu (of whom over 90% are women) were more vulnerable to poverty than other groups (VNSO, 2013:56-7). The pandemic is exacerbating pre-existing inequalities, particularly gender inequality (UN Women, 2020), and exposing vulnerabilities in social, political, economic, and biodiversity systems. Dampened economic activity, in particular, has serious repercussions for the developmental outcomes of PICs and their ability to achieve the Sustainable Development Goals (SDGs). In many countries in the world, COVID-related lockdowns and disruptions have revealed the fragility of people's access to essential goods and services, especially health systems, safe water, sanitation and hygiene (WASH) services, and food systems. In all these areas, critical weaknesses and inequalities have come to light.

Food supply chains – both short and long – are of particular concern, proving vulnerable to various COVID-19 induced challenges. In the short food supply chains¹ that dominate many PICs food systems, vulnerabilities have developed due to closures and/or restrictions imposed on produce markets (FAO, 2020). Such measures stem from the infection risks posed by markets due to their high density, often poor WASH service availability, and low capacity to enforce hygiene and social distancing. Markets are a key driver of economic prosperity in many PIC's, including Vanuatu, providing a much needed source of income for some of the most vulnerable members of society – workers in the informal economy generally and women more specifically. Markets are important reservoirs of resilience and sustainable livelihood practices, enhancing self-reliance and supporting

¹ Short food supply chains are characterised by few intermediaries between producer and consumer and relatively short transport distances. Examples in Vanuatu include artisanal fishers and smallholder farmers selling fish and garden produce at markets, as well as cattle, pigs and chickens for domestic consumption. Long agri-food supply chains include cattle, dry kava, vanilla, cacao and copra for export.

not just economic but social and cultural well-being. Markets are also a crucial source of food security, remaining the principal means by which many people in urban and peri-urban areas obtain their food (World Vision, 2018).

This research focused on improving understandings of the water, sanitation and hygiene (WASH) situation in a variety of produce markets in Vanuatu, from central market houses to smaller peripheral and road side or 'satellite' markets. More specifically, the goals of the research were to:

- i) Fill current gaps in WASH knowledge associated with markets
- ii) Understand how COVID-related preparedness and prevention measures, such as lockdowns, communication strategies, improved hygiene infrastructure, social distancing measures and other regulations (such as one-day market / no sleeping at market) have, and/or have not, impacted market vendors livelihoods and local food security
- iii) Identify barriers and opportunities to improving WASH vulnerabilities and COVID-19 preparedness at market places in Vanuatu.

The overarching rationale is that by filling these gaps development actors – from donors through to the national government – can better target assistance to this important sector. Ensuring the ongoing viability of produce markets is essential to women's livelihoods, strengthening public health security, and supporting the resilience of local food supply chains.



Methodology

Interviews were audio recorded, transcribed, and coded in NVivo™ for analysis. Market vendor survey data collection was undertaken on tablets linked to the mobile data collection platform SurveyCTO®, then entered into MS Excel™ and summarised using Excel and SPSS™. Surveys were conducted in November and December, 2020, over 2-3 week period. Purposeful sampling was used and coverage varied from 50% to 10%. Ethics approval was granted from Griffith University (Ref: Mark Love 2020/80 [29/10/2020]) and The University of the South Pacific (Ref: Krishna Kotra/2020 [09/10/2020]). Participant informed consent was sought from all participants.

This CASE STUDY is based on



42 Interviews



114 market vendor surveys

Interviews were structured around the key themes of COVID response, impacts, vulnerabilities, food security and WASH situation

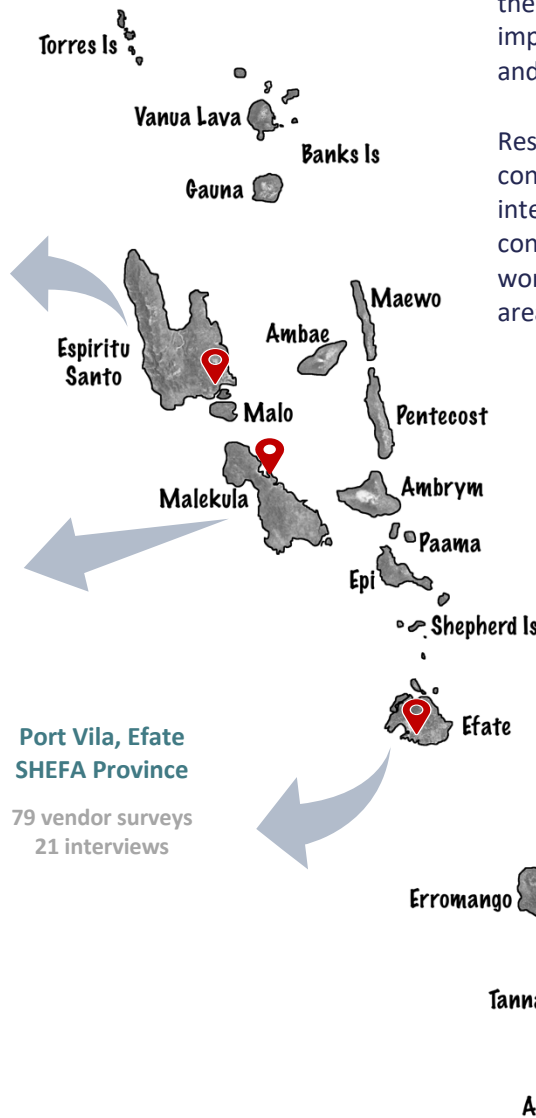
Research was jointly designed and conducted by a team of local and international researchers, and concluded with stakeholder workshops to help identify priority areas and recommendations

Luganville, Santo
SANMA Province

14 vendor surveys
13 interviews

Lakatoro, Malekula
MALAMPA Province

21 vendor surveys
8 interviews



Port Vila, Efate
SHEFA Province

79 vendor surveys
21 interviews

Qualitative interviews were conducted with:

- Market vendors
- Market managers
- Market associations
- Provincial and Municipal employees
- Private sector
- Civil Society Organisations

Figure 1: Republic of Vanuatu

Market Profiles

Lakatoro

The Malampa Market house, established in 2004, is located on the north side of Lakatoro, the administrative centre of MALAMPA Province, on the second largest island in the country, Malekula.



Malampa Market house is open daily, except on Sundays, and before COVID-19 many vendors slept at the market house until their produce was sold. Post COVID-19, the market is now strictly a "one-day market", open from 5am to 6pm Monday to Saturday. The market house generally supports 20-30 vendors per day, increasing to 60-80 on pay days (every second Friday). This includes vendors operating from small kiosks at the rear of the fresh

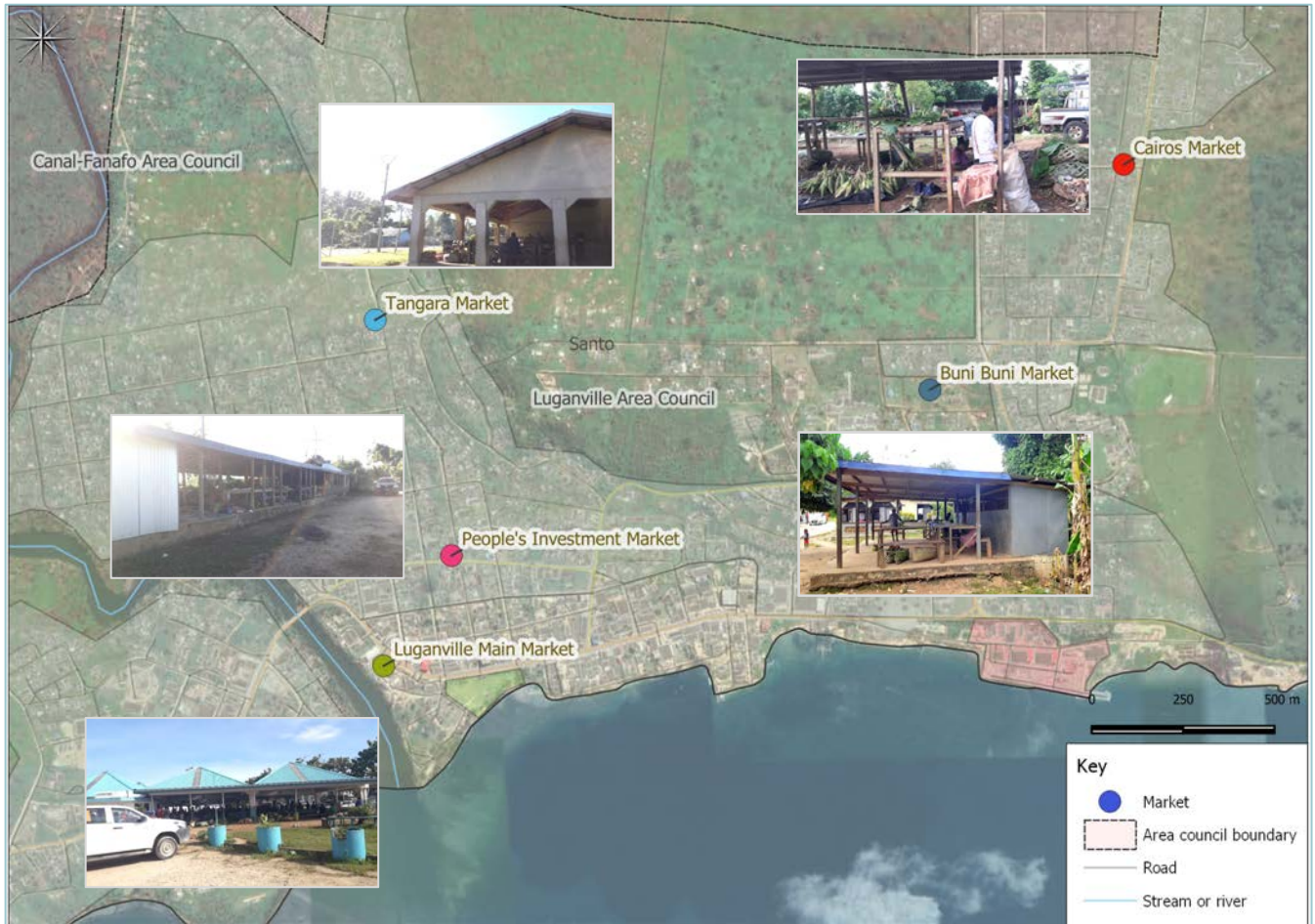
produce hall who sell freshly prepared cooked food. The cooked food kiosks are leased on a rotational basis for two months at a time, for a fee of VUV15,000 a month [post COVID this has been reduced to VUV7,500 a month]. Kava sales are conducted outdoors, under a newly built shelter located on the south-west corner of the market. The market is operated by the Malampa Provincial government.



Malampa Market House

Luganville

Luganville – Vanuatu's 'second town' – has a population of around 16,500 and is a popular tourist destination with various resorts situated along the coast. Five markets were investigated, all located within the municipality borders.



Luganville main market has been in operation since 1975 and is the largest market on Santo. The market is owned and managed by the Luganville Municipality and consists of various buildings: a fresh produce hall, food kiosks, and a toilet block. Previously, there was a fresh fish and livestock building. The market was severely damaged by Tropical Cyclone Harold in April, 2020. The market is open daily, except on Sundays. Before COVID-19 the formal operating hours were 7:00am until 7:00pm and many vendors slept at the market and stayed until their produce was sold.

Luganville market is now strictly a "one-day market", open from 7:30am to 4:30pm, and supports around 70-80 produce vendors (on a busy day), in addition to ten flower sellers and ten

cooked food vendors. Vendors attend the market on a rotational system, with vendors from different regions taking turn to sell at the main market. The Northern Islands Market Vendors Association (NIMVA), established in 2014 with assistance from the market for change (M4C) project, has greatly increase vendor numbers, with membership standing at 3510. The main customers are local residents from Luganville and nearby villages. Before COVID-19, local resorts and hotel owners purchased considerable amounts of fresh produce.

Tangara market has been in operation for 7 years. The market is open from 4am and closes at 10pm.. Previously, vendors slept 3 days at the market; post COVID-19, management allows them to come for one day and one night.

Cairos is a small market space, consisting of only five vendors. There have been no changes at the market since COVID-19.

Bui Bui opened in 2016 and is a small market located near the showgrounds. There are, on average, 10-15 vendors at the market. Vendors are still permitted to sleep at the market.

Peoples Investment Market (PIM) started in 2017. Opening hours were previously 6am to 9pm, and many people slept at the market (20-25 on average). After COVID-19 and Tropical Cyclone Harold (April, 2020) the market it closed for months and opened again only on 6th October, 2020. The new opening hours are now 6am to 5pm and no vendors sleep at the market ('one-day market').



Tangara market



Peoples Investment Market (PIM)



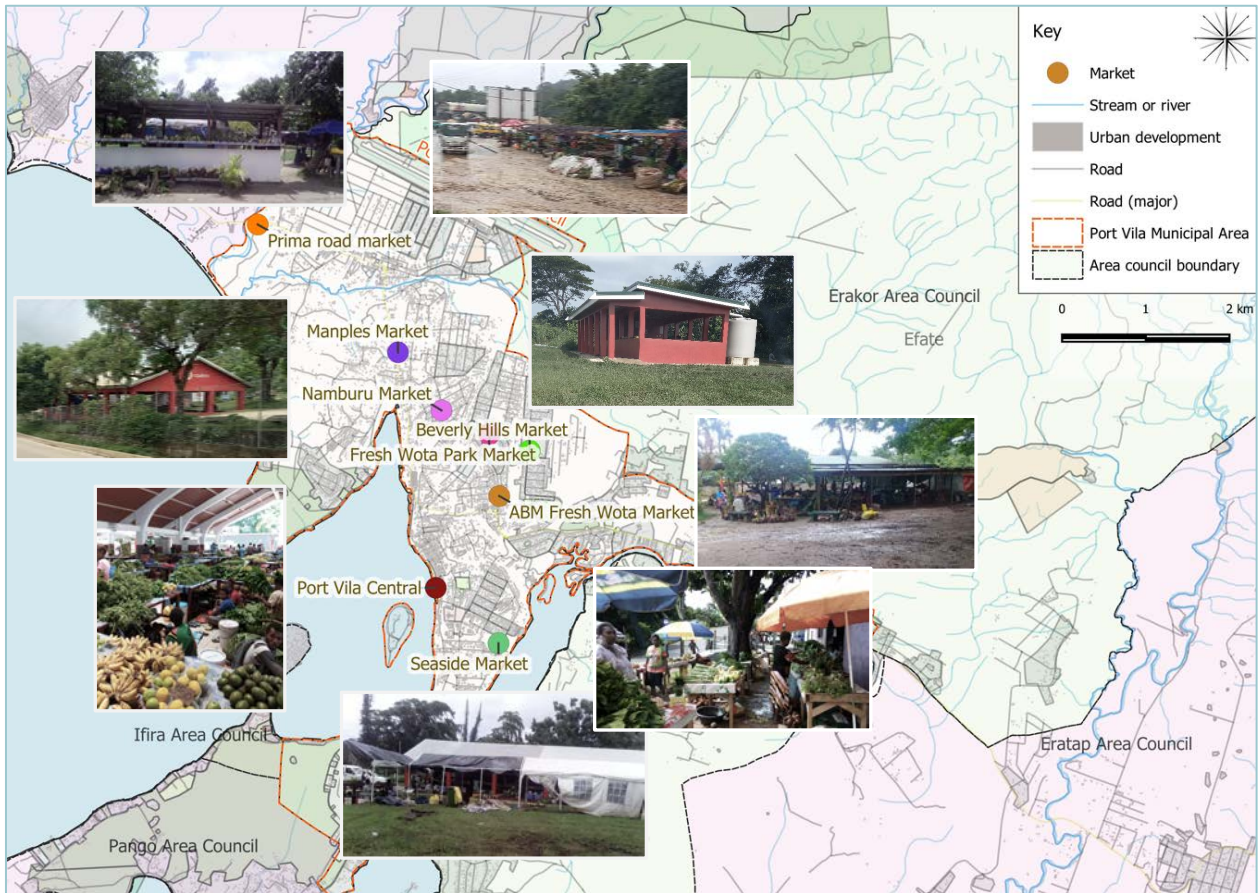
Luganville Main Market



Luganville Market tap

Port Vila

Port Vila, the national capital of the Republic of Vanuatu, is situated on Efate island. The greater metropolitan area of Port Vila is home to approximately 78,000 people, the Port Vila municipality around 51,000. This study examined eight markets within the municipality of Port Vila.



Port Vila Municipal (or Central) market is located in central Port Vila, off the Lini Highway on the seafront of Vila Bay. The market is open daily, except on Sundays. Before COVID-19 and the Vanuatu government's State of Emergency declarations, the formal operating hours were basically 24 hours and vendors could sleep at the market - staying until their produce was sold. Post COVID, the market is now strictly a "one-day market", open from 6am to 7pm, Monday to Saturday. The market house has 400 registered vendors, but with social distancing they currently house 100-140 vendors a day. The main customers are local residents from Port Vila. Before COVID-19, local resort and hotel owners purchased considerable amounts of fresh produce from the market.

The market was upgraded in early 2020 with various new facilities, including: toilets and shower block, cooked food cooking and eating area, water tank, waste collection area, sinks and handwashing facilities, and offices for the municipality and the Silia Vanua market association.

ABM Freswota market is located on land owned by Au Bon Mache (a supermarket), and was initially earmarked for a service station but the development was blocked by the government. It is now used as a space for a market, ran as a "private business" but on behalf of a local Youth Association. Before COVID-19 there were regularly around 40 vendors; now, with social distancing, there are typically 30. There are generally two

temporary handwashing stations, but at the time of some interviews they were no longer present.

Beverly Hills is a small market house, open Monday to Sunday, 6am to 5pm. There were only four vendors present at the time of the survey, and during another visit there were no vendors present at all. The market has been recently upgraded and there are two permanent handwashing stations.

Freswota Park is a medium sized market (25 vendors), particularly popular with '20 vatu' mama's (women who sell cooked snacks on the roadside and at kava bars). It is open 7 days a week, from 6am to 10pm. Vendors are still allowed to sleep at the market. There are temporary handwashing stations installed.

Manples is a medium to large sized market with 80-100 vendors and open 7 days a week. New shelters have been erected for vendors and there are two temporary handwashing stations.

Namburu is a small market – regularly frequented by 15-25 vendors – and is open 7 days a week. There are two temporary handwashing stations.

Seaside market opened in 2017 and is a very popular market close to town. It caters for 50 vendors (including a few cooked food vendors) and is a 7 day a week market. Tents have been erected to expand the market in response to growing vendors numbers and social distancing rules. The market was recently upgraded, including the addition of two rooms for vendors to sleep overnight. Post-COVID, no children or family members are allowed to stay – only vendors. The market is located in Central Ward and, as with Port Vila Central market, is managed by the municipality.

Prima Road is a small roadside produce market that caters for up to 10 vendors. The vendors previously operated elsewhere, not far down the road, but were moved to this location in September 2020. There is no water services available at all at this market.

Table 1: Case study market attributes

	Vendor #	COVID measures			WASH infrastructure & services			
		one-day-market	hygiene stations	social distancing	tap†	toilet	soap in toilet	water tank
Malampa market house	20-80	✓	✗	✓*	1	✓	✗	✓
Luganville Main Market	70	✗	✗	✓*	1	✓	✓*	✓
Tangara	20-25	✗	✗	✓	✗	✓	✗	✗
PIM	10	✓	✗	✓	✗	✓	✗	✗
Cairos	5	✗	✗	✓	✗	✓	✗	✗
Buni Buni	10-15	✗	✗	✓*	✗	✓	✗	✗
Port Vila Municipal market	100-140	✓	✓	✓	various	✓	✓	✓
ABM Freswota	30	✗	✓*	✓	1	✓	✓*	✗
Beverly Hills	4-10	✗	✗	✗	1	✓	✓	✓
Freswota Park	25	✗	✓	✓	1	✓	✓*	✓
Manples	100	✗	✓	✓	1	✓	✓	✗
Namburu	15-25	✗	✓	✗	1	✓	✓*	✓
Prima Road	10	✗	✗	✗	✗	✓	✗	✗
Seaside	50	✗	✓	✓	1	✓	✓	✓

✓ = yes, ✗ = no, * = yes - but only sometimes, † = tap accessible by vendors (not including tap in the toilet)

Vendor attributes

Market vendors are a diverse group of people consisting of both fulltime vendors, who buy or sell on consignment other peoples' produce (often extended family members), and part-time vendors who garden and vend their own produce. Drawing on the market survey data only, the following section provides a summary overview of vendors at the case study markets.

Lakatoro

N=21

Year selling at market: range 0-40, average 13 years

Product: Root crops (i.e. yam, taro, sweet potato) 32%; mixed fruit, vegetables, peanuts 24%; cooked food 19%; kava 10%; crab 5%; 'other' - pot plants, clothes/store goods 10%

Gender: Female 91% / Male 9%

Age: 25 to 68, average 44 years old

Household size: 2 to 8, average 5

Educational attainment: Primary (1-6) 86% ; Secondary (7-12) 14%

Income: (before COVID) VUV7,765, (post-COVID) VUV4,166; **Market is family's main income:** Yes 86%

Transport costs: VUV2,300-VUV8,000, average VUV2,286²



“ We face a lot of challenges with the vendors. They come and tell me that their products are not selling-out and that they should come back to sleep at the market. They would come to my office and argue or cry and I mean cry with flowing tears saying they cannot pay their table fees (market worker, Lakatoro)

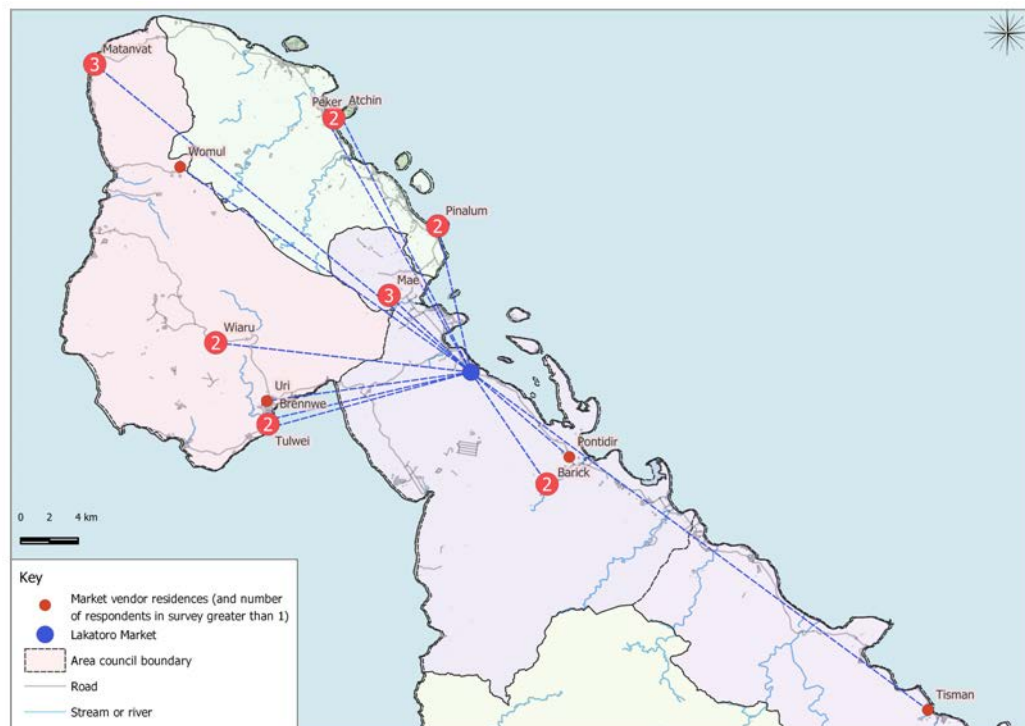


Figure 1: Surveyed market vendor residence - Malampa/Lakatoro market house

² AUD\$1.00 = VUV82.7 – or VUV1,000 = AUD\$12.00

Luganville

N=14

Yeas selling at market: range 0-40, average 7.5 years

Product: Root crops (i.e. yam, taro, sweet potato) 43%; mixed fruit, vegetables, peanuts 21%; kava 21%; cooked food 7%; 'other' - crab 7%

Gender: Female 86% / Male 14%

Age: 26 to 61, average 39 years old

Household size: 2 to 12, average 6 people

Educational attainment: Primary (1-6) 43% ; Secondary (7-12) 57%

Income: (before COVID) VUV21,214, (post-COVID) VUV8,167; **Market is family's main income:** Yes 93%

Transport costs: VUV600-VUV11,000, average VUV4,400



“ Sales have not been good so we return home with our produce or give them to nearby families. Prices depend on the quantity of produce and transportation expenses. From Fanafo it is VUV6000 both ways, so we have to set prices to meet these expenses (Vendor, Tangara)

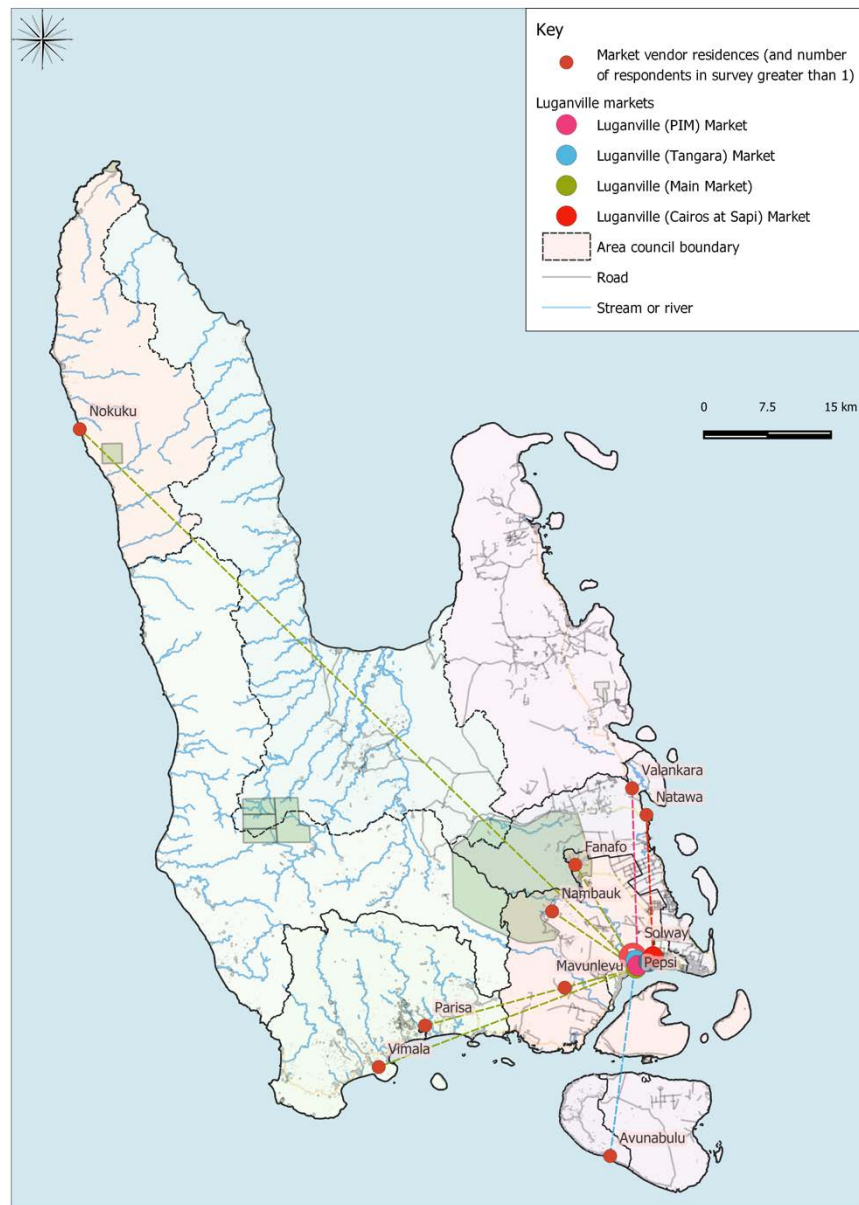


Figure 2: Surveyed market vendor residence - Luganville markets

Port Vila

N=79

Yeas selling at market: range 1-40, average 8.4 years

Product: Root crops (i.e. yam, taro, sweet potato) 68%; mixed fruit, vegetables, peanuts 21%; cooked food 9%; 'other' 2%

Gender: Female 95% / Male 5%

Age: 19 to 75, average 41 years old

Household size: 1 to 16, average 6 people

Educational attainment: Primary (1-6) 58% ; Secondary (7-12) 33% ; University 1%; vocational 3%; other 5%

Income: (before COVID) VUV21,214, (post-COVID) VUV8,167; **Market is family's main income:** Yes 94%

Transport costs: VUV0.00 - VUV13,000, average VUV2,876



“ If I buy 50 bundles of firewood at VUV200 and I sell it VUV300, I make an interest of VUV5,000. If I buy bananas to sell and don't sell them and they god bad, then that money spent is a loss (vendor, Freswota Park).”

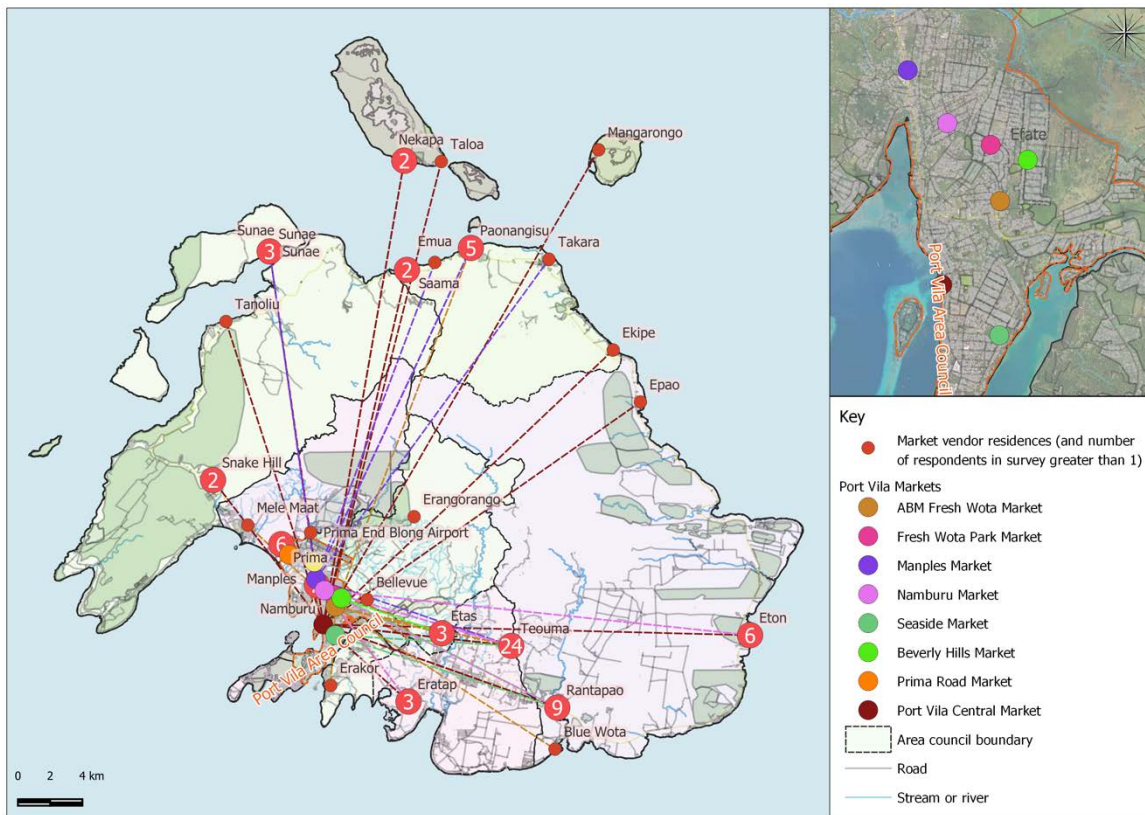


Figure 3: Surveyed market vendor residence - Port Vila markets

Research Findings



COVID-19 Response

On the 25th March, 2020, the President of Vanuatu signed a declaration for a State of Emergency (SOE) over the whole of Vanuatu for a two-week period, for the purpose of strengthening prevention and containment measures in response to the COVID-19 global pandemic. Following the impact of Tropical Cyclone Harold (6-7th April), the SOE was extended for a 30-day period on April 11 and has been extended multiple times since. The SOE was extended from 1st January to 31st of July, 2021, due to the continuous global existence of COVID-19. These SOE Declarations allow special powers as set out in the Disaster Risk Management Act No. 23 of 2019. Since the beginning of the pandemic, there have been three (3) active COVID-19 cases in Vanuatu, all of which have been detected in quarantine. There has been no community transmission of COVID-19 in Vanuatu.

The Vanuatu Government's response has been timely, coordinated and, thus far, highly effective. A COVID-19 Health Sector Preparedness and Response Plan was first drafted in January, 2020 – before the World Health Organisation (WHO) had formally declared a global pandemic – and various advisory committees were established. On the 23rd of March the government closed international borders, activated Emergency Operations Centre (EOC's) in each Province, and began communications and mass media awareness campaigns (e.g. social media, newsprint, 119 Hotline, MoH website). According to the Preparedness and Response Plan there are three phases – Preparedness, Containment and Mitigation – and four scenarios (see box).³ Vanuatu has been in scenario 2A just twice – November 2020 and March 2021 – otherwise has remained in Scenario 1 – no confirmed cases.

The Food Security Cluster and the Department of Agriculture and Rural Development (DARD) introduced a “COVID- 19 Food Security Response Plan” which, among other things, promoted backyard gardening (Daily Post, 2020). In partnership with some commercial farmers DARD also introduced the “Commercial Food Basket” system, collecting local produce and selling it at the DARD Sepeta warehouse in Port Vila – the idea being to guarantee the supply of local produce to the urban households at affordable prices (Robins et al., 2021:113). DARD also trailed Mobile Marketing, selling local food using mobile phones and trucks (Loop Pacific, 2020b). The government have also introduced various crops and commodities subsidises (MALFB, 2021).

Four main COVID-19 responses were identified in the case study markets, although in practice they were not applied to all markets. These are: COVID-19 **communication** activities, changes to operating hours and regulations (**one-day market/no sleeping**), **social distancing** measures, and the introduction of **hygiene stations**.

Preparedness

Scenario 1

No confirmed cases

Containment

Scenario 2A

Confirmed cases in quarantine
(Border Cases)

Scenario 2B

Confirmed cases locally (Sporadic or
cluster cases)

Mitigation

Scenario 3

Community Transmission

³ The language of the transmission scenarios reported here are reportedly soon to change to a 'level' system in line with the National Disaster Management Office (NDMO) system used for cyclone tracking and warnings.

Communication

Government communication has been relatively widespread, conducted through radio, television, social media, the MoH website and posters at markets. Non-government organisations have also been involved (e.g. CARE, ADRA, UNICEF, Wan Smolbag). A recent survey by The Asia Foundation (2021) found that Vanuatu had a very high level of penetration of public health messaging and, compared to Fiji and Papua New Guinea, considerably lower rates of people believing COVID to be a 'hoax'. This was mirrored in our vendor survey data where only one respondent stated that they "don't believe in COVID" (n= 114).

The Asia Foundation (2021) survey also found that radio was the most common source of information for all age groups, whilst Facebook was the second most prominent source of knowledge for people aged 18-29 years old. In our survey, several respondents explicitly noted that they do not get radio or phone coverage where they live and thus rely heavily on the information they receive when they come to market (from word of mouth, posters, market managers etc.).

“ I live in a remote area and I am only able to listen to these awareness' when I come to the market (Vendor, Freswota Park)

Visits to markets: Most markets had been visited by government representatives (Environmental Health/MoH officers, police in Luganville) and, in some markets, NGOS (e.g. Wan SmolBag in Port Vila).

Posters & pamphlets: MoH approved posters and pamphlets were distributed to most markets, but only a few posters remain in evidence in some markets.

Market Management communication: According to surveyed vendors, 49% reported that market management had directly spoken to vendors about COVID-19 (see Fig. 8, vendor knowledge). The main messages reported by vendors across all markets were primarily about hygiene (washing hands regularly with soap), keeping the market clean. Vendors at many of the smaller 'satellite' markets,

such as Tangara, PIM, Manples, and Namburu, reported receiving no or very little briefing from market management (Fig. 8).



No sleeping/One-day-market

Amongst the most substantive COVID-19 preparedness measures to be applied in (some) markets is the instigation of the no sleeping rule, which ostensibly turns markets into a "one-day-market" (as many vendors referred to it). This results in shorter trading hours and, in practice, has delimited some people from vending at all (see further COVID-19 impacts).

Of the thirteen markets under investigation four had instigated a one-day-market/no sleeping rule: the three main markets – Luganville, Lakatoro and Port Vila central, in addition to PIM. All the remaining smaller markets still allow people to sleep, but some with minor modifications. For example at Seaside, Port Vila, only two vendors are allowed to sleep and no children or family members can accompany them, whilst at Tangara, Luganville, management allow vendors to stay one night only [whereas before it was three nights].

“ The vendors like the idea of sleeping two to three nights because they can earn a lot of money compared to one-day-market ... the amount spent on transportation must be worth it (Manger, Tangara)

The municipal councils mandated the 'no sleeping' rule, but it is unclear why some of the smaller markets (e.g. PIM) apply it and others do not. Regardless, the one-day-market regulation is highly unpopular amongst most vendors .

Social distancing

Social distancing guidelines of a minimum of one-metre between vendors was applied at many of the markets, although reports suggest that its application in practice is variable (e.g. Luganville main market). The social distancing rules have resulted in a decrease in vendors, especially notable at the larger markets (Port Vila central, Malampa and Luganville main market). At Seaside, a temporary extension was made to cater for more vendors and still retain appropriate spacing.

The decrease in vendor numbers has been welcomed by some vendors as it decreases competition, but others have noted that it was now "harder to get a place at market".

“ *The vendors find it more profitable at the main market because there is a restriction on the number of vendors per day* (Market manager, Tangara)

A 'rotation system' – whereby vendors resident in different areas take-turns (generally weekly) to sell at the market – is active in all three of the main markets, but this precedes COVID-19. However, in the advent of community transmission of SARS-CoV-2 this system of regulating the movement of vendors by area would be a potentially useful means of limiting exposure and enabling micro-area lockdowns (if testing and contact tracing is adequate).

Vendor attitudes

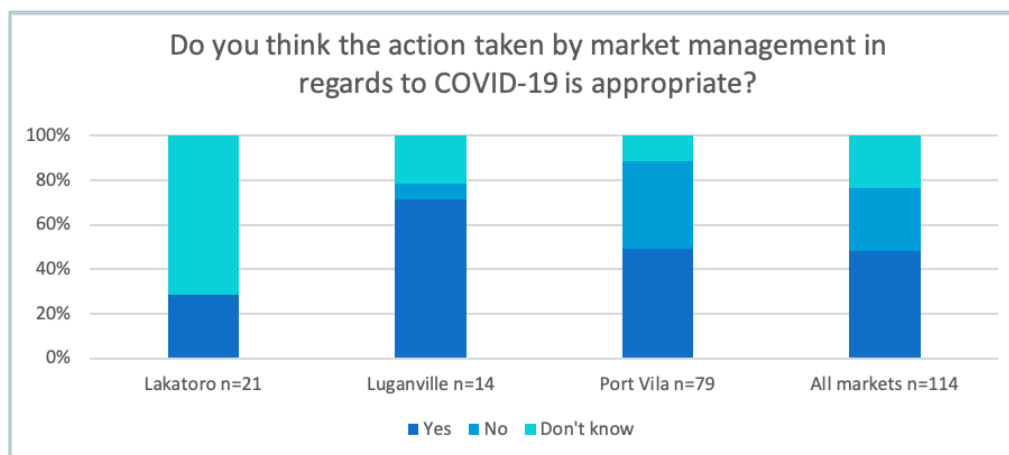


Figure 2: Vendor attitudes towards market response to COVID-19

Hygiene stations

The MoH *Public Health Guidelines for Markets and Vendors* stipulates:

“ *Make sure that staff and customers have access to places where they can wash their hands with soap and running clean water, especially at the entrance to the market* (MoH, 2020b)

In Port Vila, hygiene stations were found to be installed and active in all surveyed markets except Prima Road and ('sometimes') ABM. **In Luganville, none of the markets had hygiene stations.** At Malampa market house, two permanent hand washing basins were installed at the front of the market in September 2020, but as of May 2021 they were still not operational.





COVID-19 Impacts

The impacts from the global COVID-19 pandemic on Vanuatu have been multiple and considerable. The cessation of revenue from tourism – which contributes up to 30% of the nation's GDP – reduced remittances, whilst rising unemployment have weakened Vanuatu's growth and undermined development gains (ADB, 2020). Financial impacts have been compounded by Tropical Cyclone (TC) Harold, which struck Vanuatu in April, 2020. The Vanuatu Government estimates the combined economic cost of COVID-19 and TC Harold at around VUV68.1 billion (AUD \$850 million) (DFAT, 2020).

Nevertheless, the impacts from COVID-19 are experienced variably across the country, impacting urban and peri-urban locales more than rural areas and disproportionately impacting women. Numerous CSOs have highlighted that the pandemic is impacting women and girls more excessively than men, adversely impacting women's livelihoods, education, food security and nutrition, as well their health and social protection (CARE, 2020; World Vision, 2020). Our research confirms that most market vendors have had their livelihoods substantially effected and, in numerous cases, has impacted their children's education by delimiting their ability to pay school fees.

In Vanuatu, the COVID-19 crisis has brought discussions of the formal and informal sector to the fore (Naupa, 2020). Informal agricultural activities, which includes producer/sellers operating in the fresh produce market sector, are estimated to account for 80% of the domestic economy (*personal communication*, VCBN, 2021). However, the government's COVID-19 economic stimulus package, valued at VUV4.2 billion (equivalent to 5.5% of gross domestic product), only targets small to medium sized businesses in the formal sector and does not include very small traders or 'informal' workers such as market vendors. Moreover, the cancellation of Business Licences is not relevant to vendors as it is only paid if turnover exceeds VUV4 million.

Elsewhere in the world, informal market closures due to COVID-19 have disrupted the availability of affordable and nutritional food services (IPES, 2020) and there has been concern that this may occur in PICs (United Nations, 2020a). Recent studies in Solomon Islands have identified food stress in both rural and peri-urban areas (Wairiu et al, 2020). Current household-level data on COVID-related impacts in Vanuatu are not yet available, but food insecurity is a particular concern in Port Vila, which has the highest basic needs and food poverty line in the country.⁴ Previous research has identified significant levels of food insecurity due to: a lack of arable land; the high price of fresh, local foods relative to cheap, less healthy imports; and, convenience (Wentworth, 2014; World Vision, 2018). A 2018 survey of 390 houses in Port Vila identified produce markets as the second most utilised source of food for many households (World Vision, 2018).

In some PIC's, such as Samoa, the supply of food produce to markets substantially decreased and prices greatly increased (FAO, 2020), but this has not been replicated as such in Vanuatu. Whilst there was an increase in the price of some produce in some locations, overall food supply has not been overly disrupted and prices have not sky-rocketed. Market vendors reported that the main impacts of COVID-19 was, in most instances, a drop in demand and, subsequently, a decrease in their income (generally half or more). Based on interviews with vendors and civil society organisations (CSOs) – such as the Vanuatu Women's Centre, VANWOOD and ACTIV – we also identified miscellaneous other impacts, such as increased hardship (no longer being able to afford basic provisions such soap and nappies, and struggling to pay school fees), as well as an increase in reports of domestic violence and abuse.

⁴ In 2010, on average, every person (in adult equivalent terms) needed VUV1,178 a week to have enough food to meet essential nutritional requirements. This was VUV1,538 in Port Vila (where more food items were purchased); VUV1,060 in rural areas (where more food items were produced in the home); and, VUV1,375 in Luganville (which was a mix of bought food and home grown produce) (VNSO, 2010:32).

Livelihoods

Markets are a critical income source for many women and their families. For 68% of surveyed vendors market was their families only source of income (n=114). Even vendors who had some other supplementary source of income – such as salary from a family member, remittances, or miscellaneous other income sources – 92% of vendors stated that market was their family's main income source.

Asked what the impacts of COVID-19 had been for themselves and their families, 90% of vendors stated "less money", 5% reported "transport" issues (more expensive, harder to get) and six vendors (6%) said there had been "no impact" (n=106).

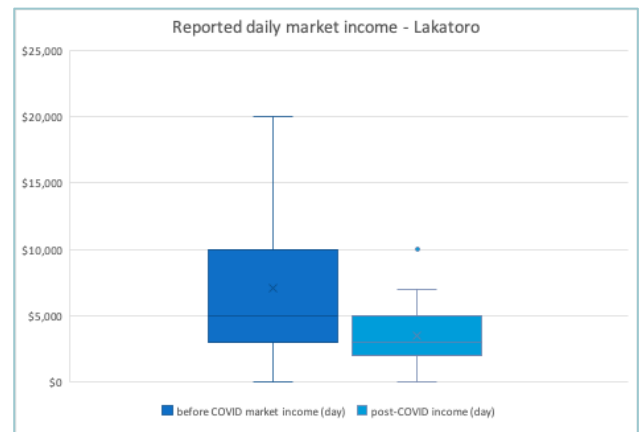


Figure 4: Income (self-reported) Lakatoro (n=21)

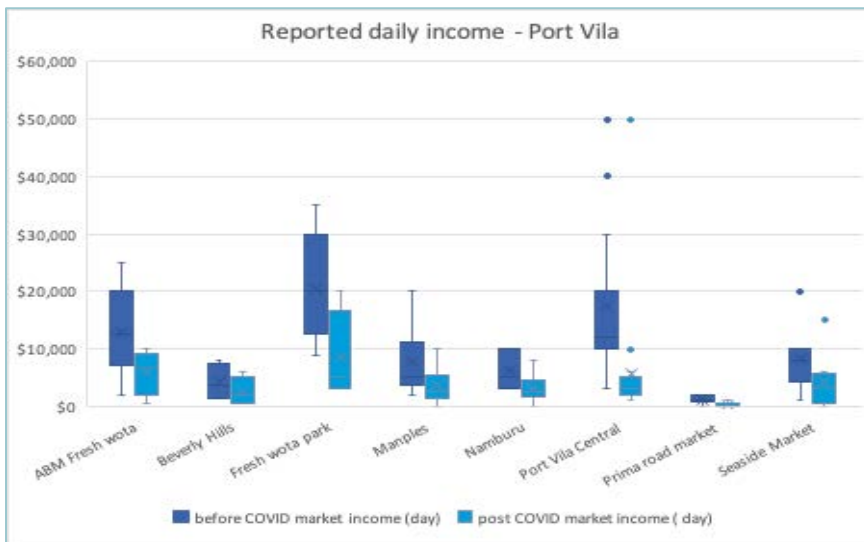


Figure 3: Income (self-reported) Port Vila (n=79)

84% of vendors reported a decrease in income

Income has reduced by half or more, with the greatest daily average decrease reported in Port Vila

VUV11,955 to VUV4,777

Income reduction was stated by vendors as primarily due to: less demand (fewer customers, an increase in home gardening, more selective purchasing); more people selling the same produce; difficulties finding a place at market (because of social distancing/less stalls); and, meeting transport costs (due to sales reductions, sometimes higher transport costs, and more frequent transport requirements due to one-day-market regulations).

On average, market income dropped by at least half, with the greatest decrease recorded in Port Vila (Fig's. 3-5).

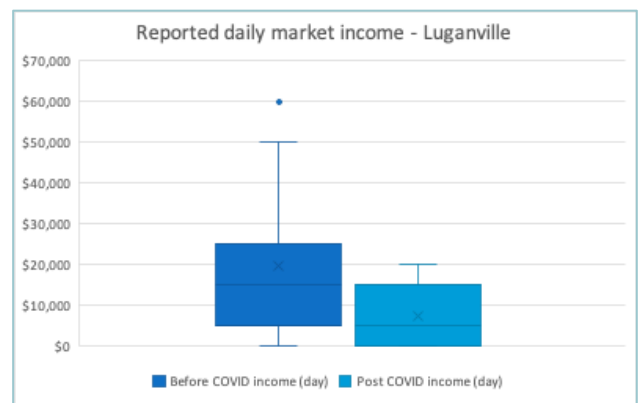


Figure 5: Income (self-reported) Luganville (n=14)

Transport challenges were a recurrent theme raised in interviews and the survey, with vendors in all locales reporting either a decrease in transport options, an increase in price, or both. The mean cost of transport varied between locales, with Luganville reporting the most expensive costs:

- Lakatoro VUV2,286 (min. \$300, max. \$8,000)
- Luganville VUV4,000 (min. \$600, max. \$11,000)
- Port Vila VUV2,875 (min. \$0, max. \$13,000)

There were many stories of vendors, especially in Luganville, facing hardships after not earning enough money to pay for their transport back to their village. Some vendors reported having to harvest kava, or make copra, on their return to pay for transport.

“ After covid-19, since it is a one-day-market, the vendors do not earn much so they can't afford household needs as well as school fees. Last week, I sympathized with a vendor. She did not earn enough money to meet her transportation cost so she had to collect coconuts to make copra and pay off the outstanding debt (Market manager, Luganville)

Food security

Food security encompasses four dimensions: food availability, accessibility, utilisation and stability. We explored availability and price (a component of accessibility) in the contexts of markets.

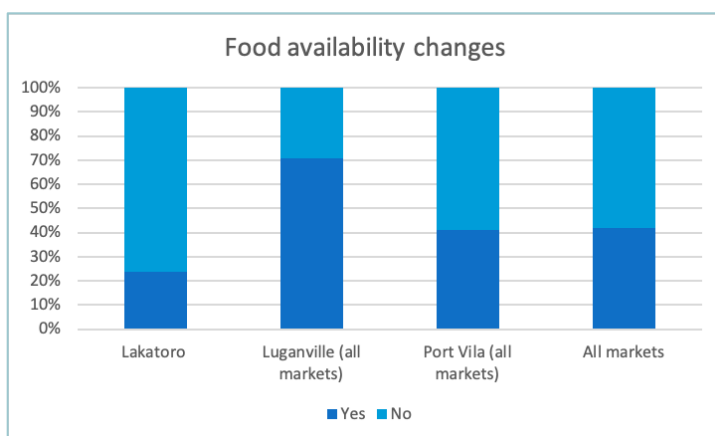


Figure 6: Food availability (all markets) (n=114)

In terms of **fresh produce availability**, there were no shortages of particular food stuffs reported but there were some notable changes. Lakatoro reported the least changes, Luganville the most (Fig. 7). Across all sites there was an over-supply of many vegetables (mainly short-term crops, such as sweet potato, manioc, cucumber, cabbage) and fruits (e.g. watermelon, orange, lemon, pineapple, banana) as well as peanuts and kava. There was a general decrease in demand for staple root crops (yam and taro) as well as 'luxury' items such as herbs and legumes. Especially notable in Lakatoro, pigs and chickens (as well as icy-poles) are no longer sold at the market due to a lack of demand.

Nearly half (43%) of all vendors reported changing what they grow and/or sold in response to COVID-19

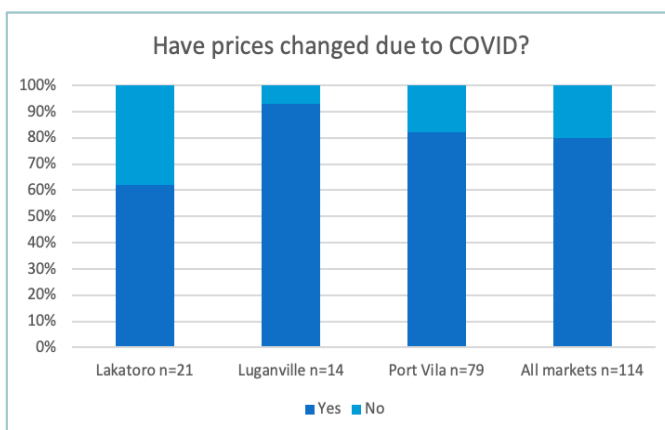


Figure 7: Price changes (all markets)

“ The decrease in the number of vendors causes a decrease in food supply. Most basic foods like cabbage and other greens [...] are sometimes not sold at the market. Vendors who come to the market these days plant mainly root crops such as taro and manioc ... there are no varieties (Market manager, Tangara)

In Luganville, especially, vendors reported changing what they sell due to perishability and waste issues, which are compounded by both the general decrease in demand and the challenges of one-day-market.

The **price** of a many horticultural products has also changed, with vendors from Luganville reporting the most changes (Fig. 8). Vendors and managers generally reported a drop in price, but there were also reports of an increase in some produce prices (such as Fiji taro in Vila) and in many items in Luganville (to meet transport costs).

“*The prices were cheaper before COVID-19. Since it is now a 'one-day-market', the vendors increase the price of their produce to make as much as possible to cover their expenses [such as transport]*”
(Market manager, Luganville)

Another factor likely informing a shift in produce demand is an increase in home gardening. In Vila, where subsistence food production is very low (VNSO, 2006), the government – through the Food Security and Agriculture Cluster (FSAC) – developed a food security response plan that included encouraging Port Vila residents “to commence backyard gardening”, providing seeds and seedlings to interested households (Daily Post, 2020b). More than one hundred people attended a backyard farming workshop in Vila in July, 2020, and there has been workshops for people with disabilities. This resurgence of interest in home gardening was also reported in Luganville and Lakatoro (see also Good Impacts).

The main impact of COVID-19 on food systems has thus far been on the demand rather than the production and supply side

Other impacts

There are a range of other impacts that were captured in our interviews. Particularly notable was that the composition of vendors has changed. For example, in Luganville, there are less vendors from the south and north West Coast of Santo and the Big Bay area. In Lakatoro, very few vendors from the south east and south west of Malekula are now travelling to make market. While Port Vila has been less impacted, there are few to no vendors from Tanna and Panna traveling to Efate to market their produce, whereas before COVID-19 there were many.

Decrease in vendor income has had flow-on effects that impact the whole family. Numerous vendors reported struggling to pay school fees. VANWOD – the women's micro-finance organisation that supports women to start small businesses – reported that many members struggled to keep up their loan repayments, even after introducing special provisions.

“*Before COVID-19, I was able to afford school fees from the money I was making from the market. After covid-19, I cannot afford the school fees.*”
(vendor, Freswota Park).

The Vanuatu Women's Centre (VWC) reported a high demand for their counselling services, especially amongst those who had been laid-off from hospitality work (many of whom are often the principal household earner). They also reported that “COVID-19 has brought out hidden cases, such as sexual abuse of young children – they were told not to tell but since there is no money [due to COVID] they now speak out. The number of cases have been the same except the case have become more complicated”.

“*The issue with violence nowadays are mostly to do with money. That is why many women have started to sell at the market to earn an income*” (VWC councillor)

Good Impacts

In addition to challenges, vendors also identified some positive changes. Key among them were:

- Improved hygiene awareness and practices (Port Vila 14%, Luganville 29%, Lakatoro 10%)
- Greater interest in home gardening (Port Vila 52%, Luganville 18%, Lakatoro 14%)
- Improved WASH at home (Port Vila 1%, Luganville 24%, Lakatoro 5%)
- More time with family (Port Vila 8%)
- Improved national self-reliance (Port Vila 5%)
- Less tourists (Port Vila 2%)



COVID Vulnerabilities

World Health Organisation recommendations to combat COVID-19 infection include social (physical) distancing – or wearing a mask where that is difficult – and practicing good hand hygiene. The Vanuatu MoH currently advise only wearing a mask if community transmission is occurring (Scenario 2b or 3). In terms of WASH, then, access to good water, sanitation and hygiene services is important in two key ways: (i) directly affects peoples' ability to maintain hand hygiene; and (ii) impacts people's ability to adhere to social distancing, in particular when WASH facilities need to be shared.

According to a WHO/UNICEF (2020) technical brief on WASH and waste management for COVID-19, frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the COVID-19 virus. WASH services should enable more frequent and regular hand hygiene by providing adequate facilities and using proven behaviour change techniques. Many co-benefits will also be realised by safely managing WASH services and applying good hygiene practices, such as preventing other infectious diseases which cause millions of deaths each year.

The inability or failure to maintain hand hygiene while working at the market place creates a WASH-related vulnerability to COVID-19 transmission. Vendors frequently interact with customers, often exchanging money or goods by hand, and frequent hand hygiene is the only practical way to provide protection from transmission of the virus either to, or from, customers. In addition to hand hygiene, face hygiene may also be relevant in this context, where people frequently wipe their face with a cloth due to the heat and humidity. The potential for COVID-19 to be spread by sharing a face-washing cloth is not clear, but general advice would recommend against this practice.

The purpose of social distancing as a form of protection against COVID-19 transmission is to minimise the potential for uninfected people to inhale airborne viruses from infected people, the goal being to avoid having to be so close to other people that they are breathing the same air. Social distancing is extremely difficult at market places, although some attempts have been made at many markets in Vanuatu through a reduction in vendor numbers and through table spacing. WASH also indirectly affects people's ability to socially distance, because if water, sanitation or hygiene facilities are shared amongst many vendors, they are likely to spend time close to other people while they are accessing those WASH facilities. For example, if there are limited water taps accessible to a large number of vendors there is likely to be queuing and waiting – in such instances maintaining the recommended social distance can be difficult. Thus, the inability to maintain social distances while accessing WASH facilities creates a WASH-related vulnerability to COVID-19 transmission. In all markets except Port Vila central there were too few taps for the number of vendors present to mitigate against this issue. An increased number of facilities would enable the proper maintenance of social distancing, useful not only for COVID-19 protection but all airborne transmitted illnesses.

For market vendors, WASH at home is as important as WASH at the marketplace. The inability to maintain hand hygiene or socially distance while at home increases the potential exposure of vendors to COVID-19, which could lead to (i) carriage of the virus to, or from, the markets, and/or (ii) illness of vendors leading to the greater livelihood impacts and, potentially, a decrease in food security if a sufficient number of vendor were ill. Vendors need to be able to maintain their COVID-19 protection measures while at the marketplace and at home, in order to reduce their vulnerabilities to COVID-19.

Vendor knowledge

Poor hand hygiene, coughing/sneezing and proximity were reported by vendors as the main means by which COVID-19 spread. Vendors from Port Vila provided the most detailed and accurate information. Although vendors at Lakatoro reported the highest level of market management awareness activities of all the large markets – 56% compared to 43% for Luganville main market and 48% for Port Vila central – vendors in Lakatoro recorded the lowest level of knowledge about how COVID-19 spreads.

The low level of vendor knowledge in Lakatoro is a concern as it suggest that the information provided is not cutting through - further supplementary approaches are needed.

For example, 55% of vendors at Malampa market house stated they had "no idea" about how COVID-19 spreads, while 38% reported that they "don't know" how to protect themselves (n=21). This low knowledge level likely reflects: vendor remoteness (many vendors are from the isolated North West and are less likely to receive government and/or NGO messages); and, relatively low vendor educational attainment level (86% of respondents had primary school education only - the lowest across all three study areas). Not surprisingly, vendors in Lakatoro reported they wanted more

information about COVID-19, with 95% stating they wanted to know more compared to 93% in Luganville and 77% in Port Vila.

It is noteworthy that vendors at satellite markets in both Vila and Luganville had lower knowledge about COVID-19 than vendors at the larger central markets. These were typically the markets that received less exposure to messaging (government, NGO and market management). Overall, markets in Luganville reported the least amount of COVID-19 awareness raising by management (Fig. 8).

Key responses to the question – "What should government, NGOs and/or market managers do to better share information about COVID-19?" – included:

- Come direct to the market and undertake awareness activities (don't just rely on posters/pamphlets)
- Provide more ongoing and regular awareness (not just one visit or talk).

Posters, pamphlets, radio and television are not enough on their own; whilst many markets had been visited by government or NGOs there is a clear desire for more face-to-face communication about COVID-19. This also allows for questions (*storian*) and demonstration and is better suited cultural norms. Given that the majority of vendors are women, it is important that women, not just men, provide this kind of awareness outreach.

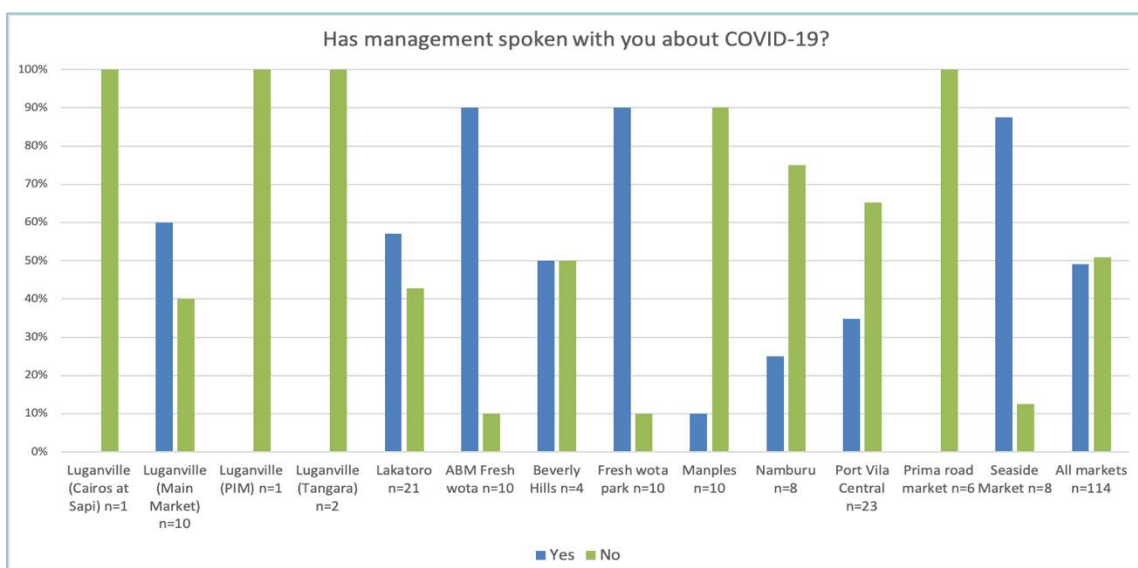


Figure 8: Market management communication with vendors about COVID-19

Protection measures

The key protection measures for COVID-19 in place at markets, as per government advice, are hand hygiene and social distancing. These, then, are the key vulnerabilities that market places need to address to offer protection.

Vendor protection: When asked "Do you do anything to protect yourself from COVID-19?", vendors in Port Vila were more likely to answer in the affirmative whilst those at Malampa market house (Lakatoro) were least likely (Fig. 9).

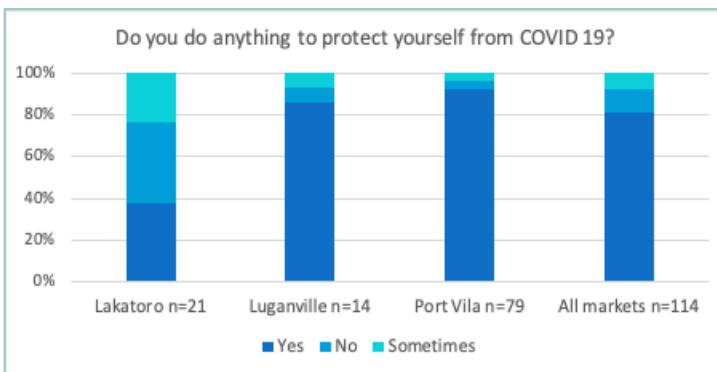


Figure 9: Application of vendor protection measures?

The same trends were replicated when vendors were asked if other vendors applied any protection measures. There is some correlation between vendor knowledge of protection measures and practice, with 38% of vendors in Lakatoro recording "Don't know", compared to none in Luganville and just 3% in Port Vila.

Customer protection measures: In terms of customers following protection measures (social distancing, hand hygiene, not touching produce) Port Vila vendors reported the highest affirmative responses, followed by Luganville, whilst Lakatoro recorded no affirmative responses.

WASH services at markets

Water service: Good access to safe and reliable water is essential to practicing good hygiene. All markets had access to water except Prima Road (see table 1). Access points were generally taps (stand alone or toilets) sourcing water either from the water utility or from an on-site rainwater tank.

Port Vila central market had the most taps, Luganville and Lakatoro had only one tap (other than the handwashing taps in the toilet). Most satellite markets had at least a single tap except Cairros, Tangara and PIM (Luganville), which only had water access in the toilet.

In Luganville and Lakatoro, where there are between 40-80 vendors, there is only a single water access point for vendors (a tap). This is an issue in terms of availability, convenience and social distancing.

Across the three study areas vendors reported accessing market water services, on average, 2-3 times a day (highest in Vila [3 times], lowest in Lakatoro [1-2 times]). Water was used for a variety of purposes, primarily washing/cleaning, drinking, cooking, and washing produce. Lakatoro recorded the least 'wash/clean' responses.

The majority of vendors wash hands at a tap, but there are too few taps for the number of vendors

Vendor satisfaction: Satisfaction with water services was lowest in Lakatoro and highest in Port Vila (Fig. 10). In terms of the satellite markets in Vila, satisfaction levels were generally high everywhere except in Freswota Park (20% "not happy") and Prima Road, which had no water services.

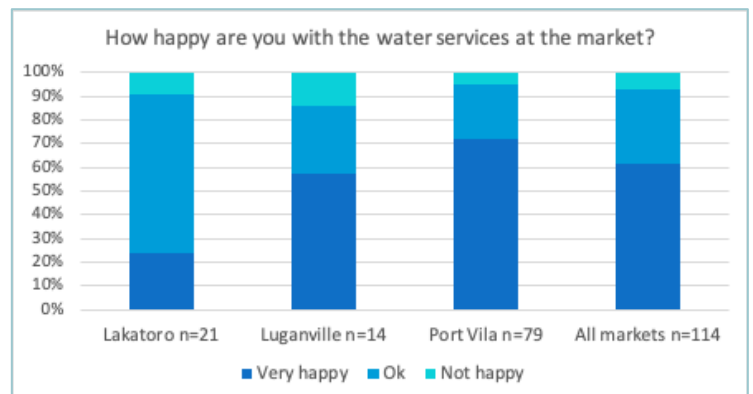


Figure 10: Satisfaction with water services?

Water containers: With water only accessible from shared taps, vendors relied on containers to make some water available at their stall throughout the day. Across the markets, 56% of vendors brought their own water container with them to market. The majority of containers were small plastic water bottles.

Hand hygiene, soap availability and use: Based on structured observation, 16% of surveyed vendors had soap/hand sanitiser that could be observed on their stall. When asked if they carry soap with them to market, 25% said "yes" and 11% "sometimes". Nearly twice as many vendors in Port Vila and Luganville reported that they generally bring soap compared to vendors in Lakatoro .

Despite many market managers reporting that they provided soap (in toilets) for washing hands, researcher observation and vendors' reports indicated otherwise; the exception was Port Vila, where across all surveyed markets only 10% of vendors reported that there was never any soap (Fig. 11).

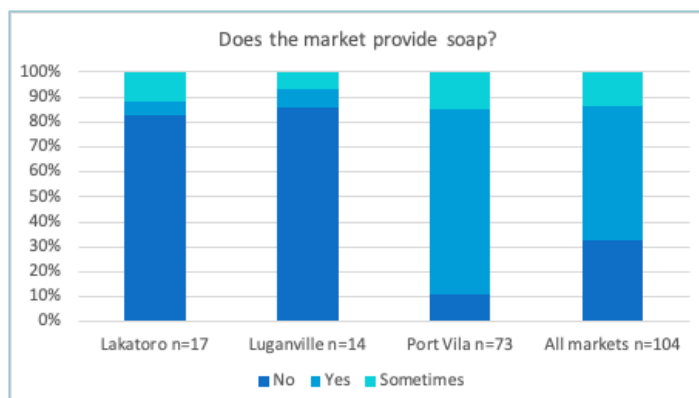


Figure 11: Market provision of soap

None of the markets outside of Port Vila had any soap available for vendors or the public, except "sometimes" in the toilet at Luganville main market

As already noted, part of the governments' COVID-19 Response Plan and the MoH market guidelines was that markets provide hand hygiene stations for customers and vendors (see COVID-19 Response). Given that there were no such hygiene stations at any of the surveyed markets outside of Efate, it is

of considerable concern that market managers were not providing soap, even in the toilets, except very occasionally at the Luganville main market.

“ The Hygiene is poor and the conditions of the toilets are not good. It is very dirty and we do not provide soaps for hand washing (market manager, Luganville)

Money was cited as one of the reasons for managers not providing soap. At one satellite market in Luganville, the manager stated that they use to provide soap but have stopped because they were "losing money". At Freswota Park, the market manager was very proactive and was reportedly regularly ringing a bell to remind vendors to wash their hands, whilst at Seaside management reminded vendors every morning and afternoon.

People often over-report safe hand hygiene practices, because they know that is the 'proper' response. Sometimes asking about hand hygiene behaviours of others can more accurately indicate actual behaviours. Asked if "Other vendors use soap to wash their hands?" the majority of people said "no" - in Lakatoro 14% said "yes", followed by 21% in Luganville and 27% in Port Vila.

Soap use is very low across all markets

A significant number of vendors reported sharing their water container with others (mainly, but not always, family). Sharing was highest in Lakatoro (58%), followed by Port Vila (28%) and Luganville (22%). Many vendors carry a cloth towel [*calico*], which they use to wipe their hands and face (and that of their children). Asked if they ever share their towel with someone else, a small number said "yes", with most of those being vendors from Lakatoro.

Sanitation: All markets had a toilet (see Table 1), ranging from flush toilets with septic (most markets) to a pit latrine (at Cairós). There were numerous reports of septic seepage at the Luganville main market, attracting flies, smelling, and disturbing the food vendors (which are located

near the septic trench). Vendor attitudes towards market toilets varied (Fig. 12).

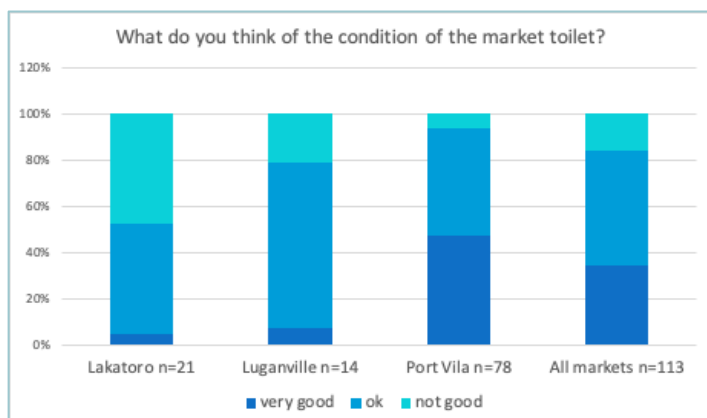


Figure 12: Condition of toilets

The toilets at Malampa market house attracted the most critical responses from vendors (48% "not good") followed by Luganville (21% "not good"). At the satellite markets in Luganville and Port Vila, the pit latrine toilet at Cairros (100% "not good") and the toilets at the main market (20% "not good", 80% "ok") drew the most negative responses.

“ There are only two toilets, we have to wait in line for our turn. We need more toilets. Toilets are also situated where the wind blows in to the market so we breathe the smell of the toilets.. Even though there is running water and toilets available, there are no soaps. There are no dish or sinks to wash our hands (market vendor, Luganville)

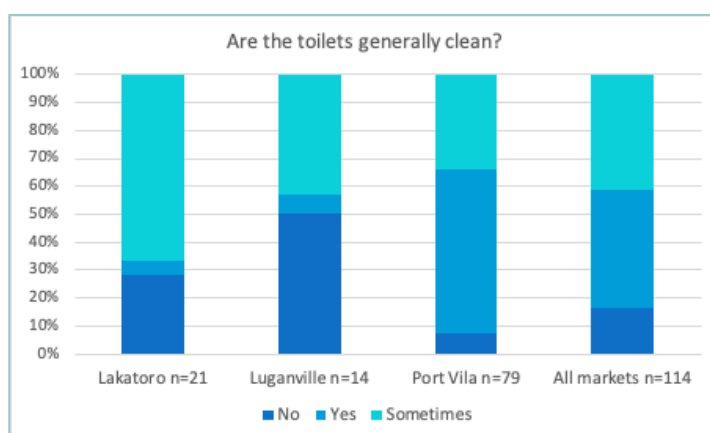


Figure 13: Cleanliness of toilets

In Port Vila, four of the satellite toilets were reported by vendors as sub-standard – ABM Freswota, Prima Road, Freswota Park and, for some vendors only, Seaside market .

In terms of cleanliness, Luganville had the least clean toilets, followed by Lakatoro (Fig. 13).

Willingness to pay: Vendors were asked if they were willing to pay a little more for their stall fee if it went towards improving water or sanitation services. "Yes" percentages for each market are appended in Table 2.

Table 2. Willingness to pay for improvements

Market	Water yes	Sanitation yes
Malampa market house	48%	38%
Luganville Main Market	70%	50%
Tangara	0%	0%
PIM	100%	0%
Cairros	0%	0%
Port Vila Municipal market	4%	13%
ABM Freswota	50%	70%
Beverly Hills	25%	50%
Freswota Park	50%	40%
Manples	20%	20%
Namburu	38%	38%
Prima Road	100%	-
Seaside	100%	100%

Given the financial downturn associated with COVID-19, the fact that 50% or more of vendors at six markets are willing to pay more for improved water services, and three markets for improved sanitation facilities, suggests that vendors are concerned about water and sanitation services.

A significant proportion of vendors are willing to pay a little more for their stall if management use the money to improve water and sanitation services at markets

Water quality testing

Although drinking water quality is not so relevant as a WASH-related vulnerability to COVID-19 transmission, drinking water quality is critically important to protect from the transmission of other pathogens, and this research presented an opportunity to assess and report on this.

Water quality (WQ) sampling and testing for the faecal indicator *Escherichia coli* (*E. coli*) was undertaken at seven markets: five markets in Port Vila and the central markets in Luganville and Lakatoro. The water quality testing kit used was the portable Aquagenx® CBT (compartment bag test) which is based on overnight incubation, then matching a colour pattern in the water sample bag with a corresponding score to ascertain the most probable number (MPN) of *E. coli* colonies per 100 millilitres of sample liquid. Research associates from the University of the South Pacific and World Vision were trained prior to sampling. Utility (UNELCO) water from a tap was tested at each market place in addition to rain water tanks.



All but one of the rainwater tanks tested (Seaside market) were found to be "unsafe", whilst all the utility water was found to have no *E. coli* present, hence classified as "low risk" by the World Health Organisation (WHO) guidelines (Table 3).

The most likely source for *E.coli* contamination in the rainwater tanks at the sampled markets are bird, lizard and rat excreta. Human and mammal excreta is considered much more dangerous for humans than from other animals. The tank at Lakatoro had no inlet screen, and most of the tanks were old. According to interviews, only a few vendors drink the rainwater – most of the water is used for washing hands and produce.



Table 3: Water quality results:

Market	Sample location	Source	<i>E.Coli</i> results MPN	Comparison to WHO Guide*
Lakatoro	market tap	utility	0.0	low risk
Lakatoro	tank tap	rainwater tank	>100	unsafe
Luganville main market	market tap	utility	0.0	low risk
Luganville main market	tank tap	rainwater tank	>100	unsafe
Manples	market tap	utility	0.0	low risk
Namburu	market tap	utility	0.0	low risk
Freswota Park	market tap	utility	0.0	low risk
Freswota Park	tank tap	rainwater tank	48.3	unsafe
Seaside	market tap	utility	0.0	low risk
Seaside	tank tap	rainwater tank	0.0	low risk
Port Vila market	market tap	utility	0.0	low risk
Port Vila market	tank tap	rainwater tank	>100	unsafe

* World Health Guidelines, 2017

WQ results highlight the importance of tank maintenance

– Rain water tanks are a great resource but must be cleaned every year

– Trees should not overhang gutters & tanks

WASH at home

In the market vendor survey the WASH situation at vendors home was explored.

Water services at home: Approximately half of vendors at both the Port Vila and Luganville markets reported they had shared water access points at their home. Private connections mainly consisted of household rainwater tanks, UNELCO piped water inside or outside the house (but not shared). In contrast, all of the vendors at Lakatoro had shared water access points outside the house (Fig. 14).

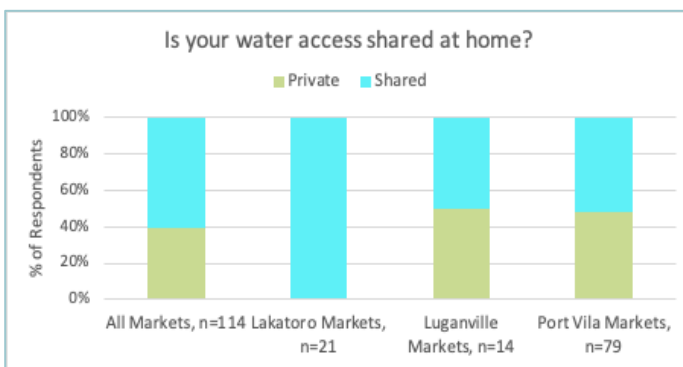


Figure 14: Home water supply

In terms of the SDG drinking water access ladder, Lakatoro vendors all had at least basic services, while 76-79% of vendors at other markets had at least basic (Fig. 15).

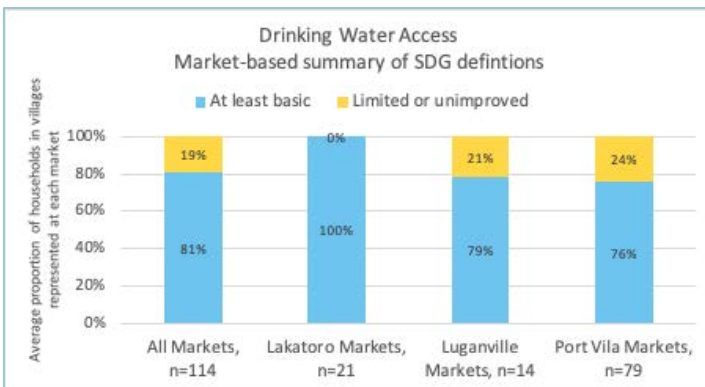


Figure 15: SDG drinking water ladder

Water reliability: Luganville market vendors experienced the most disruptions to their home water supply, followed by vendors at Lakatoro. The frequency of disruptions varied, with 44% of disruptions occurring "some days a month". Lakatoro vendors experienced the most regular disruptions (Fig 16).

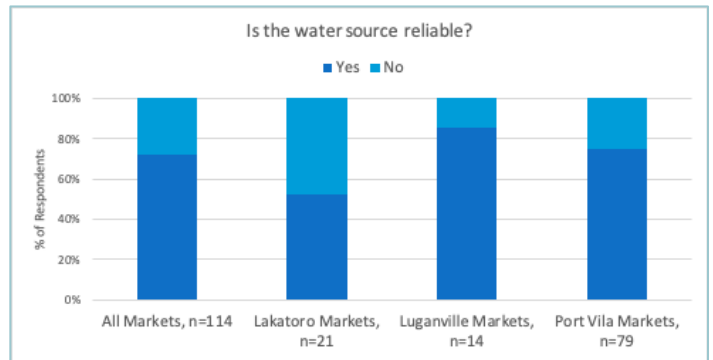


Figure 16: Home water reliability

The high rates of shared water access points will influence the ability to achieve social distancing measures, depending on how many other water users are accessing the same point, at similar times.

In addition, the unavailability of water at home at certain times will likely: (i) limit the ability to practice hand hygiene at those times; and (ii) how much water is collected and used at home. When water is limited, the allocation to hygiene practices is often reduced.

Shared water access points and unreliable water supplies means around half of vendors might struggle to maintain their COVID-19 protection measures while at home.

Home WASH situations and COVID-19 protection: Vendors were asked if they believed that their water supplies, sanitation situation and hygiene practices at home were satisfactory to protect them and their family from COVID-19 (if it spread in Vanuatu). Across all markets, vendors from Lakatoro had the lowest level of confidence (24% "no") and Port Vila the highest (5% "no") (Fig. 17).

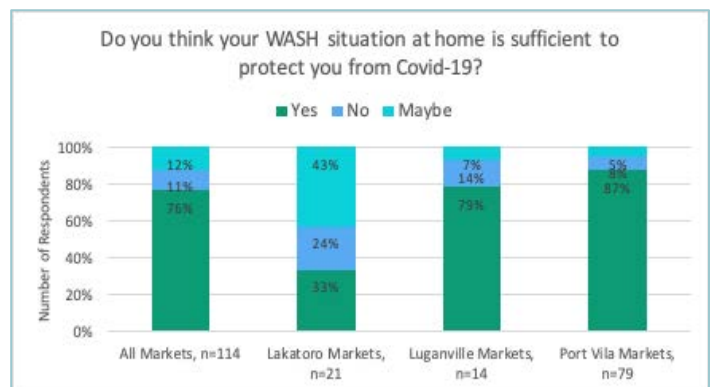


Figure 16: WASH at home & protection against COVID-19



Enabling Environment

The enabling environment refers to the social system within which people and organisations function and includes all the rules, laws, policies, power relations and social norms that govern civic engagement (UNDP, 2009: 11). An effective enabling environment is critical to addressing WASH-related vulnerabilities.

Markets are a good example of where informal economic activities intersect with formal government systems; vendors are 'informal workers' but engage with formal systems (i.e. at municipal/provincial main markets where managers are formal employees, and even at private satellite markets vendors and managers must abide by government health and waste ordinances etc.). The question of whether market vendors would benefit by their activities being formalised is debated and requires further study (UNESCAP, 2019:64).



Nhoden Abraham – market manager, Lakatoro

In Vanuatu, it has been argued in relation to disaster preparedness, awareness and response that "Marketplaces can be important sites for developing capabilities and empowering women. As transient and interactive spaces, marketplaces also have inherent strengths that can be built upon and utilised to heighten intervention reach and foster positive outcomes across the development-adaptation-disaster trifecta" (McNamara et al., 2020). The same can be argued in regards to public and environmental health issues more broadly – COVID-19 has shone a spotlight on the importance of WASH.

The high profile of COVID-19 across the world, including in Vanuatu, has undoubtedly raised public awareness about the importance of good WASH. If, as the MoH state, a key barrier to improving hygiene practices in Vanuatu is countering a belief that hand washing is not an essential practice (MoH S&H Policy, p. 24), then COVID-19 provides an opportunity – not just a challenge – to increase public awareness about the benefits of good WASH through improving WASH services, literacy, and practices.

As central public spaces where a large proportion of the population frequently gather, markets are an appropriate place to put this objective into practice. However, a strong and coordinated enabling environment is critical to achieving this goal; building the capacity of individuals and organisations, not just the provision of infrastructure, is essential.



Market governance and management

Management structures at markets varied. Of the three central markets investigated, Lakatoro is the anomaly in that it comes under the jurisdiction of the Malampa Province, whilst Luganville and Port Vila central markets are governed by their respective municipalities.

Detailed information on the legal operational structure of markets could not be clearly verified, but Port Vila Municipal Market has a draft Standing Order Procedures awaiting approval from the Town Council. In regards to Lakatoro, it was noted that as it is not yet a municipal the government runs most essential services - energy is ran by the Energy Department, water, waste and infrastructure by the Public Works Department, whilst the market is managed by the Provincial government of Malampa. This makes it difficult to coordinate across the different agencies.

“ there is no plan to cooperate and work together ... don't work alone - you are like one foot, you need the other in order to operate well, especially to address an issue (Provincial Planner)

Management at the smaller markets are also diverse – some are privately owned (e.g. Cairos, PIM), others are owned or operated by groups or associations (e.g. Freswota Park is owned by the National Housing Corporation, ABM Freswota is managed on behalf of the local Youth Association), whilst some have no owners or managers at all (e.g. Prima Road). Seaside market, located in Port Vila central ward, is an exception in that it is operated by the Port Vila municipality.

Most markets have, as a minimum, a dedicated market manager and a cleaner, except Prima Road (Vila) and Cairos (Luganville). Luganville main market and Port Vila Central market also

have assistant mangers as well as employing security personnel and other miscellaneous positions (e.g. washroom attendant, cashier).

Despite the fact the over 90% of vendors are female, the majority of market administrators are male⁵, whilst the majority of cleaners are female.

67% of market managers were male – outside of Efate it was 80%. More work needs to be done to increase female representation in management

Market managers are crucial to supporting WASH outcomes at markets. Many of the WASH-related COVID-19 vulnerabilities identified in this study – such as the provision of soap in toilets, the maintenance of social distancing between vendors, and the placement of hygiene stations at markets – are relatively low cost initiatives that, ultimately, depend on an active market manager. Markets where hygiene stations are in place and maintained, hand washing reminders given to vendors, soap provided in toilets and social distancing maintained can, to a large degree, be attributed to motivated and strong market administrators.

There were market management committees associated with the larger markets, but their exact role and effectiveness could not be determined; however, at least in the case of the Malampa market, the committee was not considered very active (see Stakeholder Perspectives section). Port Vila municipal market has its own by-laws, but there appears to be no WASH component within them. This deserves attention.

⁵ Across the twelve case study markets that have managers, eight were male and four female. Additionally, all the market mangers outside of Port Vila where male except the Luganville main market supervisor.

WASH service delivery, policy and responsibilities

The legislative responsibilities for ensuring safe and secure water lies with the local governments (provinces and municipalities). Provincial and municipal councils are empowered to issue by-laws assigning (and defining) the consequences for water safety and security failures (GoV, 2018).

WASH related issues are regulated under, principally, the *Public Health Act [CAP 234]* and the *Vanuatu Sanitation & Hygiene Policy (2012-2030)*. The 2013 Law Commission review of the *Public Health Act* proposed a greater role for area councils in developing public health rules to strengthen the compliance of sanitation facilities and their management. Hence, in locales such as Lakatoro (which is not a municipality), local area councils have the power to enforce, on behalf of environmental health officers, various by-laws they may pass to address specific public health concerns (*Public Health Act (1994)*, 42, 43, 44, 49, 50 and 51).

However, the enforcement of laws, as well as the provision of new, and maintenance of existing infrastructure, is hampered by human and fiscal constraints with only 30% of central administrative grants earmarked for capital projects (CLGC, 2013)

In practice, the delivery of public services outside of Port Vila and Luganville is very limited, and provincial governments and area councils remain highly constrained with regards to providing service delivery

Greater coordination and cooperation between disparate agencies in Lakatoro, or its transformation into a municipality, would provide greater scope for improving WASH service delivery at the Malampa market house.

Market Associations

Over a third (36%) of all vendors interviewed where members of market associations (note that there is no produce market association in Malekula, so all association members were based in either Santo or Efate). There are many small, local sub-associations that vendors are members of, but they all sit under either Silai Vanau (Efate) or the Northern Island Market Vendor Association (NIMVA) (Santo). Both of these associations are relatively new - NIMVA was established in 2014 with assistance from outside partners (the market for change program).

“ *Many of us did not market until an association was formed through the ‘market for change’ project. We did not know how to sell at the market until this association was set-up. We came to know how the market of fresh produce is done, and soon learnt how much it can help us and our families*
(market vendor, Luganville)

Both associations have been very successful in encouraging more women in rural areas to become market vendors. Especially in Santo, the formation of NIVMA has assisted many women. NIVMA membership currently stands at 3510 (80% female, 20% male, 15% people with disabilities).

NIVMA does not have its own by-laws or policies and is currently governed under Silai Vanua. It appears that there are currently no market related WASH policies or by-laws within either market associations.

Market associations provide a ready platform for disseminating WASH related information and training, as well as providing the opportunity for members to advocate for WASH improvements at markets

Donors and CSOs

Donors and civil society organisations are critical development partners to the government of Vanuatu. In regards to markets, the market for change (M4C) program has been specifically transformative. Built on the UN Women's Improving markets pilot program (2009-2012), the M4C project – a US\$17million, multi-country program largely funded through Australia's Department of Foreign Affairs and Trade – was launched in Fiji in 2014 and ran for six years. In Vanuatu, the M4C program worked with three city markets – Port Vila central, Luganville main market and Marobe market - as well as five Shefa Province ring road markets (UN Women Pacific, 2015)

The Australian government have also directly assisted with capital improvement projects, such as the recent upgrade of the Port Vila central market (opened July 2020).

Given the success of the M4C program, it is imperative that development actors now move to supporting people in other populated and agriculturally active islands – such as Malekula, Pentecost and Tanna.

COVID-19 Responsibilities

The following groups have responsibility for coordinating and implementing COVID-19 preparedness and response activities in Vanuatu:

- **National Disaster Management Office (NDMO):** national coordination including intersectoral coordination and response management. The NDMO has assumed the responsibilities of the National Coronavirus Taskforce, which was dissolved on 20 March 2020
- **National Cluster System:** includes an Inter-Cluster (Chair: NDMO Director) and eight technical clusters (Education, Emergency Telecommunications, Food Security and Agriculture, Gender and Protection, Health and Nutrition, Logistics, and Water, Sanitation

and Hygiene) responsible for coordinating within and between sectors

Despite the impressive government response to COVID-19, the lack of hygiene stations in Luganville and Lakatoro indicates that there remain challenges to providing a resourced and coordinated WASH response across the breadth of the country

- **Health Incident Management Team:** day-to-day health sector operations

- **Hospital and Provincial Health Emergency Operation Centres:** day-to-day health sector operations in facilities and provinces.

The secretary for NIMVA reported that there had been no direct communication or outreach activities from governments, donors or CSO's made to the organisation, reflecting a wasted opportunity.

Cultural factors

Culture is an important variable that informs efforts to address COVID-19 and WASH vulnerabilities. Of key relevance in Vanuatu is the emphasis on prayer and *kastom* as COVID-19 protective measures. Echoing other recent findings (The Asia Foundation, 2021), four vendors in the market survey listed prayer as their main protective action, whilst numerous other listed island food and *kastom* medicine.

Additionally, it was noted that a key challenge is social distancing – it is not ni-Vanuatu *fasin* (fashion) to not shake people's hands, or not welcome people into your home. Given that *respek* (respect) is such a central discourse and tenant of local social norms, there is merit in exploring how messaging around social distancing – especially if/when community transmission of COVID-19 occurs – could leverage this norm in novel ways, i.e. 'respect means washing your hands and maintaining social distance to protect family and friends'.

Stakeholder perspectives

After the completion of draft reports for each of the three key case study locales, stakeholder workshops were undertaken in **Luganville** (18th May), **Lakatoro** (20th May) and **Port Vila** (25th May). There were a total of 36 attendees across the three workshops, consisting of market vendors, market managers, and government and civil society organisation representatives. The workshops were facilitated by Mr John Niroa (USP) and Mr Hillary Garae (World Vision-Vanuatu).

The workshops consisted of a presentation of preliminary results followed by questions, discussions, and group work. After the presentation attendees were asked to identify, from the research, what they considered to be strengths, gaps/problems, nominate who is responsible for each issue, and suggest ideas and actions to redress identified problems. Participants were then asked to 'vote' – using 5 stickers each – and prioritise areas of most concern.

It is important to note these prioritised lists of actions represent what they considered to be the highest priorities to address what they view as important challenges. Broader discussion of challenges and appropriate actions is advisable to ensure no additional important actions are overlooked.

Strengths

Key strengths identified were:

- Accessibility to water services⁶
- Accessibility to sanitation services
- Establishment of a market association for vendors (Luganville and Port Vila only)
- Constructive partnerships (e.g. Market 4 Change)
- (some) COVID-19 information is available



John Niroa and some of the workshop attendees – Lakatoro workshop

Recurrent discussion points from workshop participants

COVID-19 awareness

COVID-19 awareness activities should be daily, or at least more regular than at present, because the 'rotation system' at many markets means there will be different vendors at markets each day/week.

Health authorities must demonstrate how WASH measures can be achieved instead of using just posters and talking - they should recognise not all vendors have strong education.

Policy and enforcement

Market management and vendors noted that there is no law or legislation to follow COVID-19 WASH protocols - if a customer does not want to wash his/her hands, vendors and shop owners cannot force them to. Additionally, managers everywhere stressed that with no laws regarding WASH infrastructure (e.g. temporary hand hygiene stations) the stations are not respected and are sometimes damaged or destroyed (this was a particularly 'hot' topic in Luganville).

The health department need to have a systematic monitoring system in place for all markets.

⁶ Despite the limited number of water access points, stakeholders appreciated that there was water – in some cases vendors remember when no water was available at many markets.

The key gaps/problems identified by **stakeholders**, in terms of enabling WASH-related protection measures to COVID-19, and the ideas/action nominated to redress these – in 'voted' order of priority – are listed below for each of three study areas.

Lakatoro

<u>Gaps/Problems</u>	<u>Ideas/actions</u>
<ul style="list-style-type: none">- Limited market space- Ineffective and irregular COVID-19 awareness- Incomplete and non-operational hand hygiene stations- Transport issues (a lack of understanding between vendors and the transport association)- Need new toilets (in a new location)- Lack of enforcement of COVID-19 related protection measures by Provincial authorities- Non-compliance of COVID-19 measures (hygiene/social distancing)- Lack of proper coordination of Provincial COVID-19 Task Force- Toilets not accessible to people with a disability- Inactive market committee	<ul style="list-style-type: none">- Extend market- Awareness needs to be more practical and targeted- Complete hygiene stations (DoWR)- Undertake consultations between vendors and transport association- Build new toilets- Fund and undertake monitoring & evaluation of enforcement- Allocate more funding for Provincial-level COVID-19 Response Plan- More consultation in relation to all planning decisions- Strengthen current market committee or elect new members

In regards to **who is responsible** for implementing the ideas/actions, the Malampa provincial government was listed most frequently, followed by market management and the Provincial WASH Cluster.



Luganville

Gaps/Problems

- Transport issues
- Not enough awareness
- Overcrowding of vendors and customers
- Poor sanitation facilities
- Not enough water access points
- No soap provided by market

Ideas/Actions

- Negotiations with transport association
- More awareness in market house and communities
- Implement and enforce rules and protective measures
- Install hygiene stations
- Market provide soap/hand sanitiser

In terms of **responsibility**, the Luganville Municipal Council, non-government organisations, transport association, market association, and government (Ministry of Health, DoWR) were identified as the most responsible.

Port Vila⁷

Gaps/Problems

- Poor enforcement of regulations relating to hand hygiene and social distancing
- No regular visits by health authorities
- Lack of market security for vendors produce
- Poor waste disposal collection
- Lack of vendor application of protection measures
- No laws or legislation to force people to abide by measures
- No store room for vendors produce

Ideas/Actions

- Increase enforcement actions
- More regular visits to all markets
- Improve security
- PVMM: Increase waste collection days; Satellite markets: provide better waste disposal areas and more rubbish collection
- Discipline vendors when not following rules
- Implement COVID & WASH laws & policies
- Provide storage space at PVMM

With regards to **responsibilities**, market management, Port Vila Municipal Council and the national government were the most cited enablers at the Port Vila workshop.

⁷ Note that, while invited, there were few vendors from the many satellite markets in attendance at the Port Vila workshop and this likely explains the absence of water and sanitation issues raised at this workshop.

Recommendations

Given the WASH-related focus of this research, the main goal of these recommendations is to enable actions that will limit the impacts to livelihoods, especially of women, and food security from COVID-19 by reducing the WASH-related vulnerabilities to COVID-19 transmissions. Doing this will almost certainly also reduce WASH-related vulnerabilities to all infectious related illnesses. However, given the interlinked nature of WASH-actions with other COVID-19 protection measures, the recommendations that follow also include non-WASH actions to improve protection or mitigate impacts from COVID-19 and similar public health concerns.



WASH-related vulnerabilities

Urgent attention to inclusive and sustainable WASH services and behaviours will improve the fundamental resilience of vendors and food systems to public health problems such as COVID-19. Improved WASH will minimise the need for urgent response actions, allowing response to focus on emergency, shorter-term measures rather than trying to correct fundamental services.

A. Water services

1. In all markets except Port Vila central there was an inadequate number of water access points for the number of vendors at the market. Vendors use the water points to wash hands, obtain drinking water and wash produce. Easy access to water, without waiting for other users, is necessary for vendors to maintain hand hygiene while at the same time maintaining social distancing. Waiting to use taps makes both social distancing difficult and frequent handwashing inconvenient, and therefore less likely. Government and development partners must prioritise resources to increase water access points at popular markets, prioritising the busiest markets.
2. The utility of water access points should influence their design, and take into account the range of uses required, including handwashing, filling water containers, and washing produce.
3. Many vendors expressed a 'willingness to pay' a small fee increase for their stall if the money went towards improved water access. In active consultation with vendors, market managers should also explore this option to improve water access.

B. Hand hygiene

There were no functioning hand hygiene stations in place at any of the markets outside of Port Vila, whilst the two temporary hygiene stations at ABM Freswota in Port Vila were not present at the time of all site visits. Additionally, there was a concern amongst market managers – raised most vocally in Luganville – that a lack of legal protection and powers of enforcement were a deterrent for managers to install and maintain hygiene stations, due to vandalism and theft.

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4. Market managers must be encouraged – by government agencies, CSOs, market associations – to follow the MoH COVID-19 Public Health Market and Vendor Guidelines and provide hygiene stations, at least temporary stations, if permanent stations cannot be implemented quickly.
 5. Regular monitoring by appropriate authorities would increase compliance, as would greater communication and coherence between agencies. Legislative backing and punitive measures (e.g. fines for market management) should not necessarily be the first step, but may be needed if greater communication does not improve compliance.
 6. In the process of improving water access points, permanent hand hygiene stations should be installed, with designs that are accessible to all vendors, and located throughout the markets so that frequent hand hygiene is convenient.
 7. Soap access and use was very low across all markets. Availability of soap and handwashing facilities, and convenience of accessing and using these, are critical drivers of handwashing behaviour. Other than the three central markets, most markets are 'privately owned' and are money-making ventures (even if profits go to an association or community). Managers need to be required to provide soap through both 'soft' means (communication and advocacy campaigns) and through more 'hard' measures (by-laws/legislative amendments to the Public Health Act).
 8. Conveniently located, functional hand hygiene stations with soap always available, combined with frequent reminders (visual and verbal), would likely improve hand hygiene.
 9. Police and appropriate law-makers – national, provincial and municipal authorities – must ensure that there is some legal protection (e.g. by-laws, legislation) afforded hygiene stations, followed by public awareness and consultation with market administrators to deter vandalism and theft.

C. Sanitation

10. Sanitation services were provided at all markets but there was often too few toilets for the number of vendors and they were generally not clean or well-maintained (e.g. the septic system at the Luganville market is leaking near the food vendors area). Overall, vendor satisfaction was generally low everywhere except Port Vila central market. Government agencies and development partners should prioritise water access but also focus on improving sanitation services.

D. Water quality – rainwater tanks

11. Water quality testing revealed high levels of *E.coli* contamination in four of the five rainwater tanks tested. Drinking water taps should preferably supply utility water. When this is not feasible, installation of rainwater collection tanks at markets should be accompanied by inspections and training by government and/or development partners for market administrators on tank maintenance, including risk management (e.g. clearing over-hanging trees from tanks and gutters) and annual tank cleaning.



Public health (COVID-19) emergency responses

The Vanuatu Government acted early and decisively in response to the COVID-19 pandemic and has undertaken an impressive amount of awareness communication across a range of platforms – radio, television, social media, the Ministry of Health website and through posters and pamphlets at public spaces such as markets. They also used non-state actors – namely Chief's – to penetrate more isolated rural areas of the country. Non-government organisations have also assisted with messaging.

E. Social distancing

Social distancing measures were, in practice, patchy across the thirteen markets investigated.

12. Review and improve the design of markets to ensure social distancing is possible – not only considering the location of stalls, but access to necessary facilities (including water, sanitation and hygiene facilities which are accessed several times a day by every vendor).
13. Implement more systematic and regular enforcement and monitoring of social distancing measures to ensure adherence to MoH COVID-19 Public Health Market and Vendor Guidelines.

F. Additional hand hygiene measures

In addition to improving hand hygiene at all times as recommended above, additional measures are recommended during public health emergencies such as COVID-19.

14. Increased reminders about the critical need for hand hygiene might be required during a health emergency, if baseline hand hygiene practices remain inadequate. Availability of soap (or other appropriate cleansing agents) is critical during a public health emergency, and should be mandatory.
15. Temporary hand hygiene stations may need to be increased in number or made more accessible, so that vendors can maintain hand hygiene without breaching social distancing requirements. An alternative to extra stations could be to mobilise the stations (such as locate them on a trolley) and wheel this around the market so that vendors can clean their hands without leaving their stalls. This would significantly improve reminders to maintain clean hands, and knowledge about when and how to clean hands.

G. Communications for COVID-19 knowledge and protection measures

Although a range of factors influence adherence to COVID-19 protection measures, knowledge about what to do, when and how, is a key factor. Our research, and others, suggests that there is generally a high level of awareness of COVID-19, including knowledge about how it spreads and what the most effective protection measures are. Nevertheless, there are clearly knowledge gaps, especially evident in Lakatoro, demonstrating that information is not reaching all areas of the country. Additionally, across all sites, there was a strong call by market vendors for more regular awareness activities as well as different modalities of delivery, e.g. less reliance on posters and oral communication and more of

an emphasis on practical demonstrations to cater for the diversity of education levels amongst vendors. The secretary of the Northern Island Vendor Market Association reported that they have had no communication from government or CSO's – with over 3,000 active members this is a missed opportunity.

Similarly, the highest reports of behaviours complying with protection measures (e.g. washing hands, not touching produce, social distancing) were in Port Vila, and lowest in Lakatoro.

16. More work needs to be done outside of Port Vila, as well as in satellite markets more generally, to ensure both a better understanding of COVID-19 vulnerabilities by vendors (through more regular messaging and different modalities of delivery) as well as more applied enforcement of protection measures, such as social distancing and reminders about regular hand washing. Closer liaison with market managers and market associations as well as a more resourced and robust monitoring regime, would assist with this.
17. Undertake more regular COVID-19 awareness activities at market places that are better tailored to the diversity of capacities inherent amongst market vendors.
18. Given that over 90% of vendors are women, they should be involved in the design and presentation of such awareness activities.
19. Where market associations are established – such as in Port Vila and Luganville – they should be actively involved as partners in devising and administering communication outreach for market vendors and market customers. Additionally, market associations extensive networks should be formally engaged as communication pathways (e.g. through executives of the numerous place-based sub-associations) as complementary mediums for further disseminating COVID-19 and WASH-related information.

H. One-day-market / no sleeping at market

The one-day market 'rule' in force at the central markets and a few satellite markets in Luganville, which prohibits sleeping overnight at markets, is widely unpopular and decreased the livelihoods of some vendors. It also excludes some vendors from attending market at all – those who have no relatives nearby the market with whom they can stay – and increases the general burden for many vendors by impacting on produce (perishability and over-night storage issues), transport (impacts costs and/or transport availability) and decreases vendor income. Many vendors reported that they had not been consulted, were unclear where the 'one-day-market' mandate came from, confused about why it is applied in some markets and not others, and had no idea when, or if, it may change in the future. These issues and uncertainties are further impacting an already vulnerable proportion of the population and needs to be addressed.

20. Consultation and clarity about the one-day-market 'rule' needs to be provided to market vendors (rationale, where the mandate originates from, when or if it may be lifted etc.).
21. When this rule is imposed, consider whether other measures could enable vendors to continue to attend markets, for example subsidised accommodation, subsidised transport, and / or food storage options.



Mitigating COVID-19 Impacts

Reducing the vulnerabilities as recommended above, and improving emergency response actions as recommended above, will reduce the negative impacts of COVID-19 and similar public health concerns. However, some negative consequences will likely remain and can be further mitigated by targeted actions.

I. Livelihoods

Money from marketing was the main income for over 90% of vendors and their families. Due to a decrease in income, numerous vendors reported that they could no longer afford to pay school fees and their children were no longer attending school. The government's financial support package to small business did not include market traders, and the school fee tuition relief subsidy package has not been enough to meet all families need (it does not cover outstanding fees or cover government registered or private kindergartens and government registered primary schools).

- 22.** Development partners and governments should consider offering targeted relief packages to market vendors, in particular school tuition fee relief given the significant consequences of children being withdrawn from schools.

J. Food security

Based on our research, the impact of COVID-19 on Vanuatu's food security has, to date, largely been on the demand rather than on the production and supply side. However, there have been no complete shut-downs of markets, which might arise if a COVID-19 community outbreak occurs, and in that situation local food security is likely to decline.

- 23.** Timely and comprehensive household data is needed to capture the degree and breadth of household food insecurity, especially in the populated urban centres such as Port Vila and Luganville but also in some rural areas for comparative purposes and to measure the degree and extent of impacts of the economic downturn penetrating rural areas. Such data is imperative to devising sound policy and development responses in the short-to-medium future.
- 24.** There has been some experiments in innovative digital marketing activities being a useful alternative or supplement to conventional marketing of small holder produce. For examples, mobile markets on Tanna (Loop, 2020). Independent evaluation of the benefits and wider potential of such technologies is warranted. However, they should not be seen as a magic bullet, given the uneven telecommunications coverage across the country and the expense and digital literacy required for such initiatives to be truly scalable and impactful.
- 25.** Vendors noted numerous positive impacts associated with COVID-19 – from increased interest in home gardening through to improved awareness of the importance of water, sanitation and hygiene. This moment must not be wasted: government, CSOs and donor partners must keep the momentum going and leverage the greater WASH awareness by ramping-up WASH interventions across the country, focusing (especially) on the SDG 6 indicators.



Enabling Environment

Markets appear to be a relative weak spot in terms formal laws and policies. Most regulations are concerned with food safety and general Public Health matters and compliance - monitoring and enforcement outside of the main markets and municipal centres is weak, at best. Port Vila Central is soon to have its Standing Order Procedures approved by Council, demonstrating the nascent status of the market sector enabling environment. It was difficult given time, budget and human resource constraints to get a comprehensive picture of the degree and effectiveness of government oversight of markets, as well as get a detailed picture of how different government agencies, let alone CSOs and wider development partners, do or do not communicate and coordinate their efforts. Nevertheless, the research gathered some constructive insights.

K. Market associations

Market associations have clearly had a positive impact on enhancing women and their families livelihoods as well as providing an opportunity for vendors to work together and have their concerns and issues heard.

26. As the M4C program has demonstrated, associations provide a constructive way of empowering vendors without them becoming 'formal' businesses, which better suits the diversity of vendor interests and activities. Development partners should support the establishment of a market association in Malekula. Leveraging learnings and capacities from the establishment of the two existing active associations (Silai Vanau and NIVMA), there is an opportunity to use a peer-to-peer exchange approach to support the development of market associations here and elsewhere in the country.
27. Some important WASH-related matters – such as the importance of hygiene – should be included in any association charter or by-laws and vendors should be encouraged to raise WASH-related issues such as limited water access, a lack of soap, and poor sanitation services with market administrators and appropriate government agencies.
28. A market association representative should be included in (extraordinary or regular) local WASH Cluster meetings (see also M34 & N30).

L. Civil Society organisations

29. Market associations provide an opportunity to utilise new learning pathways – for COVID-19, WASH knowledge and behaviour change, as well as a host of other development-related activities. CSOs should provide more support to these associations through both building their organisational capacity and, where appropriate, utilising the networks to more effectively improve the lives of its members, the majority of whom are rural women.
30. Encourage the inclusion of a market association representative in local WASH Cluster meetings (Luganville and Port Vila) (see also K28).
31. Development partners should prioritise assisting with improving water services, including handwashing and utility-focused stations, at the markets identified in this study – especially Malampa market house and Luganville main market.

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- 32.** Explore ways of building the WASH knowledge of market administrators through targeted outreach and training. A first (and measurable) goal would be to increase soap availability for vendors at market toilets.

M. Government

The fact that the delivery of public services outside of Port Vila and Luganville is highly constrained is attested to in this study. The incomplete hand washing stations in Lakatoro are a case in point. Moreover, in Luganville, it is clear that the municipality is still struggling with reconstruction efforts after Tropical Cyclone Harold; hence, perhaps, why there is no hygiene stations at the main market, only a single tap, and inadequate and poorly maintained sanitation services. Nevertheless, there are initiatives that the government – national, provincial, municipalities – can and should do to improve WASH services at markets and bolster COVID-19 protection measures.

- 33.** Support more targeted, systemic and regular monitoring of markets by Environmental Health officers.
- 34.** In locales where they exist, a market association representative should be included in either extraordinary or regular WASH cluster meetings – this would have a two way benefit, building the WASH knowledge and capacity of the association representative and providing Cluster members with insights into an important arena where many people congregate and use WASH services (see also K28).
- 35.** The national *Environment Health Policy 2012-2016* needs to be updated. WASH in markets, churches and other public spaces should be highlighted with lessons learned from the COVID-19 pandemic.

It was beyond this studies scope to gather a comprehensive picture of the degree and effectiveness of government, CSO and wider development partners work and effectiveness in the fresh produce market sector. More applied research is needed to identify how best to support capacity and improve the sector.

- 36.** Development partners should fund a comprehensive review of the fresh produce market sector, including the policy landscape, to better identify needs, capacity constraints and opportunities.

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