Central Pentecost VCAP Site, Penama Province

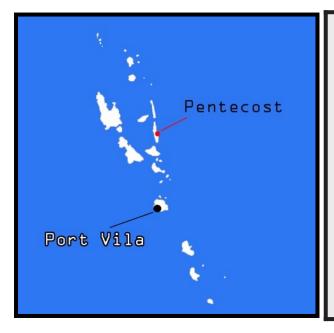
VULNERABILITY ASSESSMENT RESULTS - AREA COUNCIL PROFILE

Community-based vulnerability assessments conducted by Matthew Hardwick, Corey Huber, Eslyne Mabon and Sergio Tabi between 30.11.15 & 14.12.15. Report produced by Corey Huber and Matthew Hardwick.





PHOTO: UPLAND FOOTPATH NEAR LALAK VILLAGE AND ACCESS WAY TO EASTERN VILLAGES



PENTECOST ISLAND, PENAMA PROVINCE REPUBLIC OF VANUATU

Results elicited from communities during vulnerability assessments conducted in Bwatnapni, Melsisi, Ilamre, Gunn, Ranwadi / Waterfall, Onlaba, Lalwok, Levetlis, Levetnabal, Laringmat, and Vanrasini in December of 2015.

This report developed with the support of the United Nations Development Program and "Adaptation to Climate Change in the Coastal Zone of Vanuatu" or "VCAP", which is implemented by the Vanuatu national government through the Ministry of Climate Change.

v 1.0

TABLE OF CONTENTS

1. Methodology	Pages 1 - 3
2. Summary of Key Vulnerabilities	Page 4
3. General Information	
3.1 Population	Page 5
3.2 Organizational Structures	
3.2.1 Provincial Government / Area Council	Page 6
3.2.2 Other Government Officers	Page 6
3.2.3 Traditional Chiefly Structures	Page 7
3.2.4 NGO's	Page 7
3.2.5 FBO's	Page 8
3.2.6 CBO's & Committees	Page 8
3.2.7 VDC's	Page 9
3.3. Livelihoods	Pages 10 - 11
3.4 Services	
3.4.1 Health	Page 11
3.4.2 Education	Page 12
3.4.3 Other (Security, Airport, Banking, Communications, etc)	Page 13
4. Conveyance Infrastructure	Pages 14 - 15
5. Upland Resources	
5.1 WASH	Pages 16 - 18
5.2 Agriculture (food security, invasive species)	Pages 18 - 19
5.3 Forestry (Commercial, Erosion Control)	Page 19
5.4 Livestock	Page 20
5.5 Environment	Page 21
6. Coastal Resources	
6.1 Fisheries	Page 22
6.2 Environment	Page 23
7. Natural Disaster and Climate Change	
7.1 Natural Disaster	Page 24
7.2 Disaster Warning.	Page 24
7.3 Disaster Shelter	Page 25
7.4 Climate Change	Page 25
8. Community Priorities for Development	
Bwatnapni, Melsisi & Ilamre	Page 26
Gunn, Waterfall, Onlaba, Lalwok, Levetlis	Page 27
Levetnabal, Laringmat & Vanrasini	Page 28
9. Annex Documents	
Vulnerability Assessments for: Bwatnapni, Melsisi, Ilamre, Gunn, Waterfall	l, Onlaba, Lalwok, Levetlis
Levetnabal, Laringmat, Vanrasini	
Eastern CP2 Project Implementation Committee Meeting Sign-In Sheet	

1. METHODOLOGY FOR VULNERABILITY ASSESSMENTS

The term "Vulnerability Assessment" is sometimes used interchangeably with the term "Community Profile" within Vanuatu. Both terms refer to a participatory social engagement tool thats elicits information in a group setting about communities in a comprehensive, multi-sector approach. Vulnerability assessments (or community profiles) allow for community members to identify for themselves any relevant vulnerabilities using their contextual knowledge (including those posed by climate change and natural disaster), contribute valuable baseline data about the community as well as define community priorities for development in a fairly short span of time.

There have been multiple methodologies and templates utilized by various stakeholders to conduct vulnerability assessments and community profiles within Vanuatu, however, the Department of Local Authorities (DLA) is attempting to standardize this process. The DLA approved the use of the draft assessment tool and methodology used to collect the data contained within this report (version 2.3 of the "Komuniti Profael Form"). The vulnerability assessment tool utilized was designed using the pidgin language, Bislama, and is intended for use by non-technical Ni-Vanuatu facilitators (a generalist with a secondary level of education should be able to facilitate the assessment process with minimal training). The template for the assessment tool is currently in draft format and will be further refined by the DLA with the support of UNDP and other stakeholders throughout 2016.

The information contained within this report summarizes the results collected from vulnerability assessments conducted on Pentecost Island within the VCAP site in the CP2 Area Council (and a small portion of the CP1 Area Council) in December of 2015. These vulnerability assessments were conducted in a community meeting format that was open to the general public. Data was collected from community members through the assistance of facilitators, who led several public meetings and encouraged active participation throughout the meetings by asking a series of questions and putting forth discussion points, as detailed in the "Komuniti Profael Form" version 2.3. The facilitators attempted to elicit data without influencing the results provided by the community. At times, the facilitator attempted to help community members arrive at a consensus or agree upon an approximate answer if there happened to be any disagreement or varying answers provided by the group.

The results from these community vulnerability assessments often consist of estimations, provided by community members to the best of their knowledge. While the results within this report should provide relatively accurate information about a community's vulnerabilities and resources, there may contain within this report inaccuracies as reported by the communities themselves. Data within this report should be considered as approximations made by community members (example - population figures).

The facilitators also utilized focus groups as part of the approach in completing the vulnerability assessments, allowing for further in-depth discussions regarding vulnerabilities and more inclusivity for local youth and women who sometimes face cultural limitations or inhibitions when expressing themselves publicly during community meetings. Focus groups utilized during this initiative included women's groups, youth groups (under the age of 25) and men's groups.

Key respondent interviews were also utilized to engage community leaders, including teachers, health workers, chiefly authorities, NGO representatives and woman's group leaders.

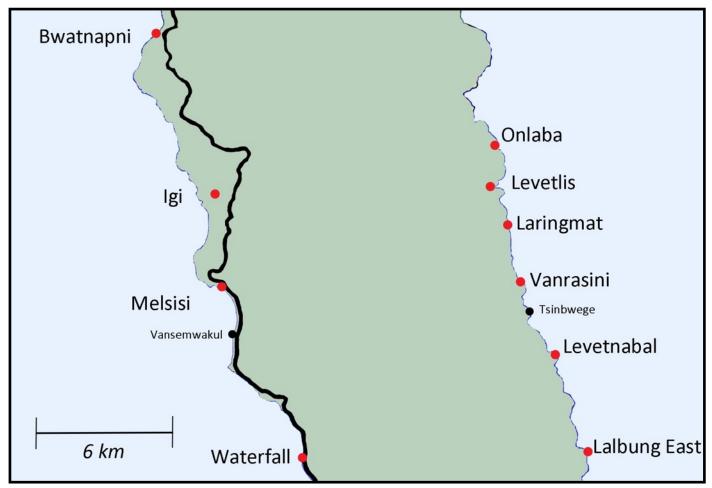
Relevant chiefs and members of chiefly councils were informed of this community vulnerability assessment process and its potential benefits before any data was collected and permission was granted to carry out the assessments in accordance with local governance practices. Chiefly representatives participated in the community profiling initiative at all communities consulted

on Pentecost: Bwatnapni, Melsisi, Ilamre, Gunn, Waterfall, Onlaba, Lalwok, Levetlis, Levetnabal, Laringmat, and Vanrasini. The provincial Area Secretary for the Central Pentecost 2 (CP2) Area Council, Ms. Eslyne Mabon, was engaged throughout the entire community vulnerability assessment process and was an active facilitator of these community meetings.

Notice was given to communities prior to each meeting where vulnerability assessments were conducted (public announcements were made and notices were hung on community notice boards) and the entire community was encouraged to attend, including women, youth and disabled persons, etc. Meeting attendance was encouraged regardless of land ownership claims, ethnicity, education, religion or gender. Meetings took place in Bwatnapni (01.12.15), Melsisi (02.12.15), Ilamre (03.12.15), Gunn (04.12.15), Ranwadi / Waterfall (06.12.15), Onlaba (08.12.15), Lalwok (08.12.15), Levetlis (09.12.15), Levetnabal (09.12.15), Laringmat (10.12.15), and Vanrasini (11.12.15). Although the entire community was encouraged to attend and participate in the vulnerability assessments, attendance was voluntary and some chose not to participate due to work or personal commitments.

Transect walks through the communities were also conducted by the facilitators before and after vulnerability assessments were completed. Photos were taken by the facilitator at these times.

This report will be shared with **Penama Provincial Government Council and the local Area Councils**, as well as the nationally implementing stakeholders and partners of "VCAP".



LOCATION & DESCRIPTION OF ASSESSMENTS - EAST COAST	Male Participants	Female Participants
Onlaba Village - Meeting conducted in "nakamal" (community hall) on 08.12.15 with representation from Savat (100), Nokonkaop (32), Leto (13), Levaga (35), Levuk (35) & Vanbok (40). Facilitated by Matthew Hardwick & Sergio Tabi.	25	24
<u>Levetlis Village</u> - Meeting conducted in "nakamal" (community hall) on 09.12.15 and facilitated by Matthew Hardwick & Sergio Tabi.	40	22
Levetnabal Village - Meeting conducted in "nakamal" (community hall) on 09.12.15 with representation from a geographic area including the outlying "stations" of Salaba (35), Lekakau (20), Vanbak (15), and Lalmamring (20).		15
Laringmat Village - Meeting conducted in "nakamal" (community hall) on 10.12.15 and facilitated by Matthew Hardwick and Sergio Tabi.	41	28
<u>Vanrasini Village</u> - Meeting conducted in "nakamal" (community hall) on 10.12.15 with representation from the Catholic mission of Tsinbwege (16) and the subcommunity of Tankarang (26). Assessnebt facilitated by Corey Huber and Eslyne Mabon.	15	20

***VCAP sites where full assessments were not conducted: 1.)*Lalbung East - a meeting facilitated by Corey Huber and Eslyne Mabon was conducted in "nakamal" (community hall) in Lalwok on 08.12.15 with representation from Lalwok, Resal and Lebujubujuvet sub-communities. A wedding was scheduled to take place the next day and the prerequisite community work to host this wedding prevented conducting a full assessment.

LOCATION & DESCRIPTION OF ASSESSMENTS - WEST COAST	Male Participants	Female Participants
<u>Bwatnapni</u> - Meeting conducted in secondary school classroom on 01.12.15 and facilitated by Mr. Corey Huber and Eslyne Mabon. Bwatnapni is the only VCAP target community located in Central Pentecost 1 (CP1) Area Council, all other communities within the VCAP site are located in CP2.	20	20
Ilamre (Igi) - Meeting conducted in "nakamal" (community hall) on 03.12.15 with representation from smaller villages of Ila and facilitated by Corey Huber and Eslyne Mabon.		20
Gunn Village (Igi) - Meeting conducted in "nakamal" (community hall) on 04.12.15 and facilitated by Corey Huber and Eslyne Mabon. Gunn is part of the same VDC as Ilamre.	12	8

^{***}VCAP sites where full assessments were not conducted: 1.) <u>Vansemwakul</u> - Several attempts were made to hold assessments at this site but due to a death in the community, it was not possible to conduct an assessment at the time of Mr. Huber's field mission; 2. <u>Waterfall Community</u> - A scheduled assessment was canceled by the community here and an informal meeting was conducted instead with around 15 villagers by Corey Huber in "nakamal" on 06.12.15 with participants from Waterfall and Vanwoki; 3. <u>Melsisi</u> - Mr. Corey Huber and Eslyne Mabon were able to briefly meet with community members in Melsisi on 02.12.15 but no assessment was conducted as the community was unable to attend the first attempt to schedule the meeting.

2. SUMMARY OF KEY VULNERABILITIES IN CENTRAL PENTECOST VCAP SITE

Footpath to East Pentecost	Along the eastern coast of Pentecost, the only method available to access communities is by walking along footpaths. There are no roads and boats are not able to access most communities due to strong seas on the eastern coast. Villagers must walk 3 - 6 hours by footpath over very steep and difficult terrain in order to access service providers like the hospital, bank and secondary schools in Melsisi, Waterfall and Bwatnapni. Often young mothers from Lalbung East do not travel to health facilities for their children to receive vaccinations due to the challenging footpath. Several years ago an older community member from Savat fell over ten meters and died while climbing the a footpath to access services in the west. Pregnant mothers experiencing complications or sick & injured patients that are referred to Melsisi Hospital from Tsinbwege must walk or be carried on a stretcher by a team of men for kilometers at a time over this slippery and steep footpath. The terrain and accessibility of the footpaths vary greatly from place to place but locals indicated the accessway between Lalak and Tsinbwege was prioritized as needing improvement due to its use by sick patients and teachers / students and church representatives.
Income Generation	Income generation is significantly more challenging for communities located along the eastern coast of the Central Pentecost VCAP site due to the relative isolation imposed by the mountainous geography of the island. A government subsidized shipping program currently in operation has supported the occasional export of products from the eastern coast. Otherwise, villagers here must walk and carry their products along difficult terrain to find a market, as vehicles and boats cannot access their communities. Communities are concerned that subsidized shipping routes may not always be available in the future.
Vehicular Road	Secondary roadways that provide access to many villages in the upland area of Central Pentecost such as Lalak, Lewawa & Vanrewerep. These secondary roads are in very poor condition. Some segments of these roadways are impassable because of flooding & muddy conditions. The mountainous upland area of the island receives a large and frequent amount of rainfall, which challenges the integrity of the local roadways.
River Crossings	Throughout the Central Pentecost VCAP site, there are sections of the roadways and footpaths where vehicles or pedestrians must wade across rivers or streams. On the western coast, community members report that PWD is currently improving access over vehicular crossings along the primary road with support from DFAT. Melsisi community reported that three additional pedestrian crossings over nearby creeks are needed by community members travelling to Melsisi by footpath from upland areas. Gunn also reported a need for a pedestrian crossing over a creek to improve its access to services. On the eastern coast, there is no ongoing initiative to improve access by community members across waterways. The river in Levetlis is particularly challenging for locals to cross during periods of heavy rain.
Water Security	The quality of some water sources and the integrity of water catchment areas are threatened by livestock and agricultural activity taking place near water sources in some locations, especially in eastern Central Pentecost.

3. General Information for Central Pentecost VCAP Site

3.1 POPULATION

These figures have been provided by community members in consultation with Community Disaster Committees and the Provincial Area Council Secretary. Youth has been defined as under the age of 25 years, household defined by VNSO as per kitchen rather than by individual housing units. Only those currently present on **Pentecost** during time of assessment included in figures.

3.1.1 East Coast - Central Pentecost VCAP Site - Population

	Men	Women	Youth	Disability	Total Pop	Households
Lalbung East VDC	65	60	55	4	125	20
Levetnabal VDC	75	115	65	7	190	50
Vanrasini VDC	65	85	50	1	150	40
Laringmat	51	80	30	11	131	25
Levetlis	58	60	20	3	118	22
Onlaba VDC	75	88	60	7	163	46
East Coast (Total)	389	488	280	33	877	203

Remarks -Lalbung East VDC's population figures includes Lalwok, Resal and Lebujubujuvet. Onlaba VDC's population figures are inclusive of Onlaba, Leto, Levaga, Levuk, Savat, Nokonkaop, and Vambok. Levetnabal VDC's population figures include the villages of Levetnabal, Salaba, Vanbak, Lalmamring, and Lekakau. Vanrasini VDC's population figures reflect the inclusion of the communities of Vanrasini, Tsinbwege, and Tankarang.

3.1.2 West Coast - Central Pentecost VCAP Site - Population

Remarks - Gunn's population figure also includes the subcommunity of Ila. Gun and Ila combine with Ilamre to form a ward (and VDC) called "Igi". At sites where there were no assessments conducted in 2015, population figures from VCAP project design mission in 2013 utilized for Melsisi, Vanesemwakul (+Vanwoki & Lalvetaesi) and Waterfall Community (+ Ranwadi area). The population for Waterfall is larger due to the inclusion of the student population at Ranwadi and its surrounding community. Melsisi & Ranwadi have large schools and their population fluctuates highly, depending on the school term, as many temporary residents will return to their home villages.

	Total Population
Bwatnapni	150
llamre	174
Gunn	300
Melsisi	500
Vansemwakul	250
Waterfall (+ Ranwadi)	395
West Coast (Total)	1769

3.1.3 TOTAL, WEST & EAST COAST - Central Pentecost VCAP Site - Total Population

	Total Population
Total Population of Central Pentecost VCAP Site (East Coast + West Coast Communities)	2646

3.2 Organizational Structures

3.2.1	PROVINCIAL GOVERNMENT / AREA COUNCIL (AC)
Area Secretary	The Provincial AS for the Central Pentecost 2 Area Council (CP2 AC) is Eslyne Mabon who was hired by the Penama Provincial Government Council in 2014 to serve in this position. Eslyne Mabon is from Savat Village located on the eastern coast of Central Pentecost. She is the only female currently serving as a provincial Area Secretary in all of Vanuatu at the time of this assessment. Eslyne previously worked for the Penama provincial government as an administrative officer. Her duties as Area Secretary include tax collection, voter registration and supporting government departments & projects to coordinate work with communities.
Area Council (Governance body)	There are numerous communities located within the CP2 Area Council. It is reportedly one of the largest Area Councils in the province, containing a geographic area and population greater than a majority of Area Councils throughout Vanuatu. Currently the Area Council membership in the CP2 AC is derived from communities located along the west coast and upland areas only. There is no membership or representation at all from eastern communities, perhaps because of the significant difficulty in accessing and communicating with villagers from the eastern side of the island who are isolated by steep mountainous terrain. The Area Secretary here reports that the provincial government has initiated a series of discussions with the DLA regarding the possible division of CP2 into two distinct Area Councils, one focused on communities on the east coast and one for those along the west coast.
Area Council Office / Resources	An AC office building has been constructed in Melsisi for the CP2 AC and the AS has a functional working space here. It currently does not have access to renewable energy for power or an improved toilet. The establishment of a provincial sub-Area Council office has been proposed by provincial authorities to be constructed on the eastern coast of CP2, on the Catholic mission in Tsinbwege. There are no office facilities along the eastern coast of CP2 currently so if the Area Secretary travels here to work with communities, there is no established field capacity to support her work. Authorities from the province and the Catholic mission have both agreed on a location to construct the office but the province is currently exploring possible funding sources the support the construction of this building. Eventually if the CP2 Area Council divides into two separate AC's, this proposed sub-AC office in Tsinbwege could serve as the primary AC office for communities along the eastern coast. The Area Council does does not posses any laptop computers for use by the AS. The AC does not have any boats or vehicles for transport purposes and must charter transport as needed and as their budget allows.

3.2.2	OTHER GOVERNMENT OFFICERS
Police / VMF	There is a sub-police post in Bwatnapni that was only recently staffed as of 2014, where various police officers are stationed for several months at a time.
Education	Government teachers are located in Bwatnapni where there is both a primary school and a junior secondary school; at a primary primary school in Gunn, at primary school in Tsinbwege; and in Melsisi, where there is a secondary school.
Health	Government supported nurses and staff stationed at Melsisi Hospital, Tsinbwege Dispensary, and Bwatnapni Dispensary.
PWD	At the time of these assessments there were several PWD employees temporarily residing in Central Pentecost, working on Australian supported road improvements.
VCAP Site Coordinator	There is a field based coordinator, Sergio Tabi, from Savat, helping to facilitate VCAP activities with local communities as part of the five year CCA project.

3.2.3	Traditional Chiefly Structures
	The traditional Ni-Vanuatu chiefly system is the prominent village-level governance system in Pentecost. The traditional chiefly councils in the target area appear to be generally quite cohesive without reported disputes over chiefly parties or land ownership. Typically larger villages contain a paramount chief who is responsible for various tribal chiefs reporting underneath the authority of a "nakamal".
	Chiefly titles on Pentecost are not hereditary, but rather earned through a series of custom rituals, payments and ceremonies. Chiefly status in Pentecost is typically judged by the amount of pigs that have been sacrificed at community ceremonies, with paramount chiefly titles bestowed by the community upon those who have sacrificed the highest number of pigs. Normally, family and community members must donate pigs to support aspiring chiefs attempting to gain a chiefly status or those seeking to improve their chiefly rank. Only males serve as chiefs on Pentecost.
Status and Role of Chiefly System	The village chiefly councils on Pentecost oversee dispute resolution and the enforcement of customized rules and regulations within their respective areas. They regularly impose fines and collect penalties from villagers for disciplinary matters and violations of their rules
	Chiefly bodies are present on a tribal level, community level, "Ward" level, and island-wide level on Pentecost. The island-wide chiefly council is often the final authority, responsible for settling larger disputes, customary arrangements and preserving important traditional knowledge. Voluntary village development work or community meetings take place as instructed by the chiefly councils.
	The "Ward" system is unique to Penama Province and links together the various "nakamals" or chiefly councils within Pentecost, Ambae and Maewo. Ward councils typically consist of chiefly representatives from around 6 -10 villages in their respective

3.2.4	NGO'S & INTERNATIONAL ORGANIZATIONS
World Vision	World Vision constructed an office in Rongon (Igi) and has supported WASH initiatives, pre-school and gender rights programs in the area over the past few years. For example, a gravity-fed water supply system and VIP toilets were installed in Ilamre and Gunn in 2014 and disaster relief items following TC Pam in 2015.
Save The Children	Save the Children supports the operations of Aid Posts in Umbigu, Vansemwakul and Onlaba and training for local community members to serve as Village Health Workers.
French Embassy	The French Embassy has supported numerous initiatives in the area including the construction of a women's market houses in Levetlis and Ilamre, a boat for Ilamre, several large metal vats used to dye local mats in eastern Pentecost,
JICA	JICA has recently supported the construction of a classroom in Ilamre in 2009 and one double classroom in Tsinbwege in 2014.
European Union	The European Union funded the installation of a gravity-fed water supply system in Laringmat in 2012.
DFAT (Australian Government)	Australia is currently supporting the PWD in the MIPU through the "Roads for Development Program" (formerly known as the Vanuatu Transport Sector Support Program) to build and maintain roadways and improve transport infrastructure (roads, bridges, drainage systems) along the primary roadway in Central Pentecost.
UNDP	VCAP project is just starting to support adaptation to climate change by communities, specifically regarding infrastructure strengthening and resource management in late 2015.

areas, linked by factors including geographic proximity and tribal association.

3.2.5	FAITH BASED ORGANIZATIONS (FBO'S)
Levetnabal VDC	A majority of this village attends the Catholic Church with around 180 members and a permanent church house. The Catholic Mission is located in Tsinbwege and it also supports the primary school at this location.
Vanrasini VDC	The largest denomination in the village is the Catholic Church with approximately 120 members and a permanent church house. The Church of Christ is also present, with approximately 20 members and a permanent church house.
Laringmat	A majority of this village attends the Catholic Church with around 113 members and a permanent church house. The Catholic church also supports the community pre-school.
Levetlis	A majority of this village attends the Catholic Church with around 118 members and a permanent church house.
Onlaba VDC	The Anglican Church is the largest in the area with a membership of approximately 100 and two permanent structures. This is followed by the Catholic Church with approximately 60 members and one permanent structure.
Bwatnapni	The only reported denomination in the Bwatnapni area is the Anglican Church with approximately 100 members and one church building made from permanent materials.
llamre	The only major denomination in the llamre area is the Catholic church with nearly 200 members and one church building made from permanent materials.
Gunn	The only major denomination in the Igi area is the Catholic church with approximately 200 members and one church building made from permanent materials.
Melsisi	A majority of this community attends the Catholic church with several hundred members in normal attendance. The Catholic Mission is located here in Melsisi and it also supports the secondary school at this location.

3.2.6	COMMUNITY BASED ORGANIZATIONS (CBO'S) & COMMITTEES
Levetnabal VDC	Active organized groups in Levetnabal include a chiefly committee, school committee, and a church committee
Vanrasini VDC	Active committees in Vanrasini include a chiefly committee, women's group, youth group, sports groups, school committee, health committee and a church committee.
Laringmat	There is a chiefly committee, women's group, youth group, church committee and a water committee in Laringmat.
Levetlis	Levetlis has a chiefly committee, women's group, youth group, church committee, water committee and a school committee.
Onlaba VDC	Active committees and organized groups in Onlaba include a chiefly committee, women's group, youth group, church committee and a health committee,
Bwatnapni	There is a chiefly committee, women and youth groups affiliated with the Anglican church, a school committee and a water committee here.
llamre	llamre an active chiefly committee, women's group, youth group, church committee and a school committee
Gunn	There is a chiefly committee, women's group, youth group, church committee and a school committee in Gunn.

^{*}Only CBO's & committees considered functional and active by community members are listed in this report (example, if a village committee was formed for water security purposes but it does not hold regular meetings or perform any recent tasks, it is not cited).

Page 8

3.2.7	VILLAGE DEVELOPMENT COMMITTEES (VDC'S)
VDC's	Eleven functional VDC's are present in Central Pentecost VCAP Site: Bwatnapni, Melsisi, Igi (Ilamre, Gunn, Ila), Waterfall (Ranwadi), Onlaba (Levuk, Levaga, Vanbok), Savat (Nokonkaop), Lalbung East (Lalwok, Resal, Lebujubujuvet), Levetlis, Levetnabal, Laringmat, and Vanrasini all established working VDCs as of December, 2015. The provincial Area Secretary and VCAP Site Coordinator may attempt to form a VDC in Vansemwakul if the community indicates it is willing and able to participate in the
	community based climate change adaptation project.

*VDC's are voluntary technical working groups comprised entirely of locally-based membership that addresses community oriented, multi-sector development issues and attempts to utilize representation from all existing organizational structures present within a community- such as chiefly systems / NGO's / FBO's / CBO's / Committees, such as those listed in previous tables above. VDC's are often used for planning or monitoring and evaluation purposes.

VDC's are flexible, voluntary working groups whose membership comes from EXISTING organizational structures. VDC's should not be be viewed as an additional organization within a community but rather as a collection of representatives from a community's existing structures, providing a wide-range of skill sets and the knowledge base necessary to create an informed technical working group familiar with local context and conditions.

3.3 LIVELIHOODS

3.3.1	INCOME GENERATION
Main Sources of Income	The largest source of income generation for communities on Central Pentecost is derived from the local sale and export of kava to Santo and Efate. Other primary income generating activities include the sale of local handicrafts (baskets, mats), agriculture and livestock (pigs, cattle, poultry).
	Income generation is significantly more challenging for communities located along the eastern coast of the Central Pentecost VCAP site due to the relative isolation imposed by the mountainous geography of the island. A government subsidized shipping program currently in operation has supported occasional export of products from the eastern coast. Otherwise, villagers here must walk and carry their products along difficult terrain to find a market, as vehicles and boats cannot access their communities. Communities here reported that while subsidized shipping routes were of enormous assisance for exporting products and generating income, this was not a long-term sustainable answer.
Alternative Sources of Income	A mix of agricultural products are sold for income generation including taro, tobacco, and peanuts. These products are exported to other islands for sale with the exception of Melsisi, where there is a small market to sell agricultural products to teachers and workers who may not have access or time to tend to their own gardens.
	There is a very limited number of guesthouses on Central Pentecost, exclusively found on the island's western coast in Waterfall and Melsisi. Most tourism activities on Pentecost Island takes place at the southern part of the island where the "nangol" or cultural "land-diving" ceremonies are localized. These tourists traveling to watch the cultural ceremonies rarely visit Central Pentecost, although a small number of tourists stay in the guesthouse located in Waterfall due to its convenient location near the airport. There are no reported fisheries or forestry activities supplementing local incomes currently. There are a small number of stores, the larger ones are located along the western coast in Melsisi and Bwatnapni.
	Regular salaries are only paid to government & NGO officers, employees of local schools, the National Bank of Vanuatu, staff of the Catholic Mission, and those working for health facilities within the Central Pentecost VCAP site. Page 9

3.3.2 LIVELIHOODS INVENTORY

3.3.2.1 - Eastern Communities

	Lalbung	Levetnabal	Vanrasini	Laringmat	Levetlis	Onlaba	TOTAL
Stores (selling basic commodities)	0	1	5	0	1	5	12
Cooperatives	0	0	0	0	0	0	0
Guest Houses / Bungalows	0	0	0	0	0	0	0
Fuel Sales	0	0	0	0	1	2	3
Boat Transport	0	0	0	0	1	0	1
Ready-Made Kava Bars	0	0	0	0	0	0	0
Markets (fresh produce, fish, etc)	0	0	0	0	1	0	1
Seamstress / Tailor	0	1	2	0	1	2	6
Baker (either local bread or "gato")	0	0	3	0	0	3	6

3.3.2.2 - Western Communities

	Bwatnapni	llamre	Gunn	TOTAL
Stores (selling basic commodities)	7	5	3	15
Cooperatives	0	0	0	0
Guest Houses / Bungalows	2	0	0	2
Fuel Sales	4	1	3	8
Boat Transport	1	1	3	5
Ready-Made Kava Bars	3	0	1	4
Markets (fresh produce, fish, etc)	0	1	1	2
Seamstress / Tailor	2	3	2	7
Baker (either local bread or "gato")	6	3	2	11

3.3.3	MISCELLANEOUS - LIVELIHOODS
Outside Investors	There were no reported outside investors or companies attempting to purchase, lease or develop land for commercial purposes in the Central Pentecost VCAP site.
Employment Abroad	There is almost no participation in seasonal work schemes abroad (only 1 reported community member from Igi) in either New Zealand or Australia. There are no locals currently working abroad on fishing boats or cruise ships.
Cooperatives	There are currently no functional cooperatives on the Central Pentecost VCAP site.
Markets	Market activity within the Central Pentecost VCAP site is very limited. Some small markets selling agricultural produce and cooked dishes have been organized in Levetlis and Igi, and operate once a week. In Melsisi, there is no official market rather local producers display their produce at stores or private homes in order to sell to teachers and mission staff.
Value Added / Exports	There is extremely limited income derived from value-added processing of resources on Central Pentecost. Regular exports from the island primarily include kava, taro and local handicrafts such as local red mats and baskets.

2.4.650,4650	
3.4 S ERVICES 3.4.1	HEALTH
Health Facilities	Melsisi Hospital is located along the western coast of CP2 at the Catholic mission. There is a doctor, nurse and nurse aid present at this health facility, which services a large portion of the population on Pentecost. The hospital has a large solar power system, funded by the Japanese government several years ago. Occasionally, severe medical cases here are referred onwards to the hospitals in Santo or Port Vila. The Tsinbwege Dispensary employs only one nurse aid. The dispensary building reportedly needs repair. Cyclone Pam damaged the building and washed away a boat belonging to the dispensary in March of 2015. This boat was used as an emergency transport option prior to Cyclone Pam to transport sick patients from Levetlis (weather and sea conditions permitting). Now all patients must walk or be carried over mountainous terrain to the Melsisi Hospital should the nurse aid recommend further treatment. Several sick patients have died en route to Melsisi hospital while being transported on a stretcher by a team of men struggling to carry the body over the dangerous footpath. There is no full-time nurse stationed at this remote Dispensary and locals indicated there was a real need for the services of a registered nurse here. The Bwatnapni Dispensary has two nurses and one nurse aid providing care for patients. Dispensary staff are able to assist mothers with child birth, provide medicines including antibiotics and vaccinations, share family planning methods and provide general treatment for mild to moderate medical conditions. Serious cases are referred to the hospital in Melsisi. Both the Onlaba Aid Post and Umbugu Aid Post in Gunn have a trained community member serving as a Village Health Worker. The Aid Posts are small buildings where basic health services can be delivered to the community, such as cleaning and dressing wounds or sores, providing medicines, distributing condoms and leading health
	awareness initiatives. Serious cases are referred from the Aid Posts to the Dispensaries.
Health Concerns / Common Illnesses	NCD's such as heart disease, hypertension and diabetes are increasingly prevalent among community members and are a common cause of death here. This may be related changing traditional diets, lifestyles and heavy tobacco use. There have been no cases of malaria in the area for many years, with the exception of Bwatnapni having reported a handful recently. The majority of communities report the use of mosquito nets while sleeping. In East Pentecost, access to vaccines, medicine and general health care is much more difficult and there are rumors from community members that even uncommon conditions such as leprosy have been found in this area.

3.4.2	EDUCATION
Pre-Schools	There are several pre-schools in the Central Pentecost VCAP site: 1 in Bwatnapni, 1 in Ilamre, 1 in Savat, 1 in Levetlis, 2 in Lalbung, 1 in Laringmat, 2 in Levetnabal and 2 in Melsisi. Some of these pre-schools are supported by the Catholic church and supplemented with funds derived from school fees paid by parents each term.
Primary Schools	Bwatnapni Primary School is anglophone, has 120 students ranging from Year 1 - 6, and is staffed by two government governments and three unregistered teachers from the community. Its classrooms are constructed of permanent materials and are in good condition. Umbigu Primary School is a francophone school in Gunn, has 176 students ranging from Year 1 - 6, and is staffed by six government teachers. The condition of the school buildings is moderate to good. Melsisi Primary School is francophone and has over 200+ students Year 1 - 6. The Tsinbwege Primary School is francophone, has 180 students ranging from Year 1 - 6, and is staffed by one government teacher and four unregistered teachers from the community. Some of its buildings were damaged in TC PAM in March of 2015.
Secondary Schools	Bwatnapni Junior Secondary School is anglophone, has 186 students ranging from Year 7 - 10, and is staffed by five government teachers and three unregistered teachers from the community. The buildings are constructed of permanent materials and are in good condition. Melsisi Secondary School is francophone and is the main secondary school for those students originating from Central Pentecost's eastern coast. The schools facilities are made of permanent materials and currently in good condition. Ranwadi Secondary School is anglophone, is located between Waterfall and Vanwoki along the western coast of CP2, has over 300 students. The school buildings are constructed with permanent materials and are currently in good condition.
Technical Schools	There is one Rural Training Center (RTC) located within the Central Pentecost VCAP site in Waterfall. However, some community members reportedly attend technical schools located in North Pentecost, Ambae, Santo and Efate as well.
Continued Education	Out of the nine communities where assessments were conducted within the Central Pentecost VCAP site, it was reported that seven people were currently involved in post-secondary, non-technical education at a university or college. Three of these students came from Bwatnapni, three from Ilamre and one from Onlaba.

	OTHER SERVICES
Airport	The national airline, Air Vanuatu, operates flights twice a week out of Lonorore Airport in South Pentecost. The airport is tar-sealed and in good condition.
	Ships frequently provide service along the western coast of CP2 primarily to collect kava and other agricultural produce for export. Bwatnapni (which is located along the southern boundary of CP1) is a main shipping center on the island where many villagers from a vast area, including upland and eastern communities, transport their agricultural produce to await export by ship. Melsisi is another community that is frequently serviced by cargo ships. There are no permanent wharf structures used in Central Pentecost, cargo is loaded on ships by small boats that carry goods back and forth from the shore.
Shipping	On the eastern coast of the Central Pentecost VCAP site, there is extremely limited access to shipping due to the strong tide and rough seas affecting this part of the island. A ship called "Island Claws" is able to access a very small harbor at Levetlis village approximately once a month (weather and conditions permitting) due to a subsidized shipping program currently supported by the national government. Locals report that before this subsidized shipping service, a ship arrived to Levetlis perhaps once every six months. Communities from Tsinbwege to Onlaba utilize the port at Levetlis. In Lalbung, there is a small passage near Lalwok where ships occasionally are able to access communities by boat in good conditions.
Financial	The National Bank of Vanuatu has a satellite branch based in Melsisi that is open several days a week. Western Union also employs a representative located in Ranwadi / Waterfall to arrange for money transfers in and out of Central Pentecost. There is a moderate demand for these services due to the influx of money arriving to Central Pentecost because of regular kava exports.
Communications	Digicel and TVL provide a limited network of mobile phone coverage to communities throughout the Central Pentecost VCAP site. The western communities of Bwatnapni, Melsisi and Waterfall have both Digicel and TVL service, although signal strength varies greatly by location. The eastern communities of Onlaba, Levetnabal, Laringmat and Vanrasini generally have a weaker connection to both network providers. Levetlis and Lalbung East reported having no access whatsoever to either network provider. These communities with no access to communications networks report that they have great concern about their isolation and inability to receive important updates including those relating to early warnings for cyclones or tsunamis.
	Few communities are able to receive FM radio signal on Central Pentecost with the exception of Melsisi, Igi (Ilamre, Gunn and Ila), Waterfall and Levetnabal. There is HF radio access at health facilities in Bwatnapni, Melsisi and Ilamre.
Security	There is a police sub-station located in Bwatnapni. Some locals have reported occasional incidents concerning theft, marijuana use and domestic violence. Police at time transfer accused suspects to Santo or Efate to await trial or they may be released to their homes to await a traveling judicial team, depending on the severity of the case.
Community Halls or Meeting Venues	The majority of communities in the Central Pentecost VCAP site utilize traditional "nakamals" as meeting venues or gathering places. Melsisi on the west coast has a large community hall for meetings, made of permanent materials and attached to the Catholic Mission. There are few community halls or community buildings (aside from the nakamals or churches) located on the east coast, with the exception of the community of Levetlis, which has "a women's club" building as a community hall / meeting venue. Otherwise, public meetings are sometimes held in community schools or church buildings as well.

4. Conveyance Infrastructure in Central Pentecost VCAP Site

There is significant road development in the western and upland areas of the Central Pentecost VCAP site with varying degrees of accessibility during times of inclement weather. Not only are these roads utilized by vehicles but pedestrians walk along them daily. These roads play an important economic role to local communities, who depend on the transport & export of agricultural produce as a primary means of income generation.

The primary road that spans the entire length of the Pentecost provides access to communities located along the western coast. This road is targeted by the "Roads for Development Program" supported by DFAT and PWD, which aims to improve access to services along the primary road with improved drainage areas, utilizing better road building materials / design and constructing permanent bridges / vehicular crossings to improve passage over numerous rivers and creeks. The "Roads for Development Program" was formerly known as VTSSP and it utilizes a system of island-based contractors to recruit local community members to perform the labor for roadworks.

There are also secondary roads that provide access to many villages in the upland area of Central Pentecost such as Lalak, Lewawa & Vanrewerep. These secondary roads are in very poor condition. Some segments of these roadways are impassable because of flooding & muddy conditions. The mountainous upland area of the island receives a large and frequent amount of rainfall, which challenges the integrity of the local roadways. The secondary road extending past the community Lalak is the main accessway sick patients referred from the Tsinbwege Dispensary must travel after hiking up from the footpath. The road between Lalak and the start of the footpath leading down to the east can no longer be used by vehicles in rainy times due to standing water and mud. This section of flooded roadway is considered important by local communities who may require vehicles to transport sick patients (or more commonly, to transport agricultural produce or livestock for export) as soon as they arrive at the end of the footpath from the east instead of having to walk an additional two kilometers along the flooded roadway to Lalak.

Roads / Vehicles

Secondary roads with steep inclines are reportedly inaccessible during rainy conditions within the Central Pentecost VCAP site. One such road passes through Vanesemwakul Village and connects with other communities further upland such as Lenbujokjok. Villagers here requested the installation of cement slabs to improve access of vehicles on the steep incline. There is a similarly steep portion of roadway in Igi where locals also indicated a need to improve accessibility.

There are no vehicular roads currently providing access to the communities in eastern Pentecost. Villagers from the eastern communities must hike up the mountainside by footpath before they have access to the roads that connecting the upland communities to those along the west coast. In most cases, community members from the east will walk the entire distance to access services in the west. There is a formerly used road (now in disrepair) that was constructed between Levetlis and the Catholic mission in Tsinbwege. Community members state that restoring access to this former road is very important as materials and building supplies arrive by ship in Levetlis and must be carried by teams of men over six kilometers to Tsinbwege. Recently during a school construction project in Tsinbwege, teams of villagers struggled to carry cement for classroom walls along this former road. Although there are no vehicles in East Pentecost, the villagers seek to improve the condition of the former mission road between Levetlis and Tsinbwege to allow for improved access.

There is a small quantity of vehicles, primarily pick-up trucks, based in Melsisi and Bwatnapni that regularly provide service to passengers and local farmers transporting their agricultural products.

Along the eastern coast of Pentecost, the only method available to access communities is by walking along footpaths. There are no roads (*except for the old Catholic mission road that is now in disrepair and serves as a footpath*) and boats are not able to access most communities due to strong surf along the eastern coastline. Locals from eastern communities must walk 3 - 6 hours by footpath over very steep and difficult terrain in order to access service providers like the hospital, bank and secondary schools in Melsisi, Waterfall and Bwatnapni.

One of the primary footpaths that allows eastern communities in Central Pentecost VCAP site to access services in the west connects the Vanrasini / Tsinbwege area on the east with the Lalak community in the upland. Villagers cited incidents where pregnant mothers experiencing complications or sick or injured patients are referred to Melsisi Hospital and must be carried on a stretcher by a team of men for kilometers at a time over this slippery and steep footpath. The terrain and accessibility of the footpaths vary greatly from place to place but locals indicated the accessway between Lalak and Tsinbwege was prioritized as needing improvement due to its use by sick patients and teachers / students and church representatives.

Footpaths

The footpaths leading from the eastern communities are natural walking trails and have not been maintained or developed with improved materials, drainage, etc. There are sections containing severe erosion problems as well as swampy areas with thick mud and standing water. The footpath between Lalbung East and Vanrasini passes through mangrove clusters for several kilometers and would be difficult for a vulnerable person to access due to the abundance of roots. Often young mothers from Lalbung East do not travel to health facilities for their children to receive vaccinations due to the challenging footpath. Several years ago an older community member from Savat fell over ten meters and died while climbing the a footpath to access services in the west.

Along the eastern coastline, there are many challenges relating to access with the footpaths between communities. Many of the footpaths pass through fenced areas where livestock is kept, which has resulted in major erosion issues at certain places on the path. The entire accessway between Lalbung East and Onlaba is a series of rolling hillsides, with many creeks and rivers scattered across the coastline.

On the western coast, there is less dependence on footpaths. However some communities, such as those further inland from Melsisi, rely on footpaths to acc

Bridges / Water Crossings

Throughout the Central Pentecost VCAP site, there are sections of the roadways and footpaths where vehicles or pedestrians must wade across rivers or streams. On the western coast, community members report that PWD is currently improving access over vehicular crossings along the primary road with support from DFAT. There is one pedestrian crossing installed to assist upland villagers accessing Melsisi but there were reports that three more pedestrian crossings over the creeks near Melsisi are needed.

On the eastern coast, there is no ongoing initiative to improve access by community members across waterways. The river in Levetlis is particularly challenging for locals to cross during periods of heavy rain. There are more than 20 creeks and rivers along the eastern coastline of CP2. Locals have attempted to create some makeshift bridges at some locations using logs or fallen timber. During rain times flooding prevent access over these creeks and rivers.

Wharfs

There are no wharfs located within the Central Pentecost VCAP site.

Boats

Travel by boat is not a preferred means of transportation between communities in the Central Pentecost VCAP site and there were only 5 boats reportedly in the area. Boats are used when the distance to travel is considerable (*such as traveling to North Pentecost's airport*) and when the destination is located on or near the coastline. The only boat located on the eastern coast was washed away by Cyclone Pam in early 2015.

5. UPLAND RESOURCES IN CENTRAL PENTECOST VCAP SITE

5.1 WASH (WATER AND SANITATION, HYGIENE)

5.1.1 Inventory of Drinking Water Sources by Community

5.1.1.1 - Eastern Communities	Lalbung	Levetnabal	Vanrasini	Laringmat	Levetlis	Onlaba
1) Gravity Supply System	0	1	1	1	1	1
2) Poly / Fiber-Glass Rain Tanks	5	1	5	0	0	1
3) Above Ground, Cement Rain Tanks	0	0	0	0	0	0
4) Enclosed Ground Wells (Cement bottom)	0	0	0	0	0	0
5) Open Ground Wells (No cement)	0	0	0	0	0	0
6) Powered Pumps (Generator / Solar)	0	0	0	0	0	0
7) Hand Pumps	0	0	0	0	0	0
8) Coastal springs (water directly accessed from a spring at coastline)	0	0	1	0	0	1
g) River / spring (water directly accessed and used at a river or spring, no use of pipes)	1	1	1	1	1	1

5.1.1.2 - Western Communities	Bwatnapni	llamre	Gunn
1) Gravity Supply System	0	0	0
2) Poly / Fiber-Glass Rain Tanks	5	19	30
3) Above Ground, Cement Rain Tanks	2	0	0
4) Enclosed Ground Wells (Cement bottom)	0	0	0
5) Open Ground Wells (No cement)	0	0	0
6) Powered Pumps (Generator / Solar)	0	0	0
7) Hand Pumps	0	0	0
8) Coastal springs (water directly accessed from a spring located on the immediate coastline)	1	0	0
9) River / spring (water directly accessed and used at a river or spring, no use of pipes)	0	0	0

5.1.2	WASH
Brief Summary of Water Resources	A majority of the communities in the Central Pentecost VCAP site have access to either a gravity-fed water supply system or rain water catchment tanks. However, following Tropical Cyclone Pam, some communities report damage to their water supply systems, especially along the eastern coast.
	The eastern coast of Central Pentecost has an abundance of water sources with over 20 rivers and creeks scattered along its coastline. However, the quality of these sources is threatened by livestock and agricultural activity taking place near water sources in some locations as well as sedimentation after heavy rains. In Levaga and Levuk (Onlaba VDC) the locals report that pigs regularly swim in the water source used by the small communities. Onlaba Village indicates that additional storage capacity is needed for the gravity supply system (additional 1,100 L tank). The nurse aid stationed at the Tsinbwege Dispensary reported that the health facility currently had no access to drinking water for patients. Also villagers from Lalbung East were concerned about the quality of their drinking water.
	Along the western coast, Bwatnapni reports that it suffers from serious water shortages as the community is dependent on a small number of rain water catchment tanks. Melsisi has previously experienced water shortages but it is reported that Water Resources has helped to improve the storage capacity of the water system. While water consumed from the gravity feed systems is typically of good quality and reliable, sedimentation is often visible for small periods of time after moderate rainfall. A moderate number of rain tanks are placed in Igi (Ilamre, Gunn, Ila), reflecting the area's dependence on rain harvesting. World Vision has assisted numerous WASH projects throughout CP2.
Toilets	Almost every toilet in the Central Pentecost VCAP site consists of an uncovered, open pit latrine. There were a small amount of Ventilated Improved Pit (VIP) latrines reported in Bwatnapni, Melsisi, and Igi (Ilamre, Gunn, and Ila) in large part due to a sanitation program by the NGO, World Vision. There are no improved toilets in all of eastern CP2.
Water Committees	Many communities do not currently have functioning water committees to provide maintenance to their communal water supply system (Bwatnapni, Igi, Vanrasini, Onlaba and Levetnabal). Those communities with active water committees (Levetlis and Laringmat), report that they do not charge a fee to households and there is no plan in place to provide sustainable maintenance to their supply systems.
Hand-washing Access (Access to Water + Soap)	Access to water and soap near kitchens and toilets for hand-washing purposes in Central Pentecost, varies by community. Soap is not as readily available in some of the smaller eastern communities without stores. While other communities such as Melsisi along the western coast, have ready access to soap & water.
Waste Disposal	It is common for households to dig large holes in order to dispose of their waste, burn garbage including plastics or to throw waste in a heap pile. No recycling service for used materials is available on Central Pentecost.
Access to Community Rain Catchment Tanks	Most communities have a mixture of both public and private rain catchment tanks to access drinking water, including Bwatnapni (2 public and 5 private), Ilamre (1 public, 18 private), Gunn (10 public, 20 private), Ila (7 private), Onlaba (1 private), Vanrasini (5 private), Lalwok (5 private), and Levetnabal (1 private). Melsisi has several rain tanks that can be accessed by the entire community should the gravity feed supply temporarily stop working or experience sedimentation after rainfall. Levetlis and Laringmat have zero access to any rain catchment tanks and locals report
	this is a critical issue for them affecting their water security, especially in times after heavy rain when there is sedimentation and the gravity-fed water systems cannot be used.

5.1.3 Improved Toilet Inventory

5.1.3.1 - Eastern Communities	Lalbung	Levetnabal	Vanrasini	Laringmat	Levetlis	Onlaba
Flush Toilet	0	0	0	0	0	0
Water-Seal Toilet	1	0	0	0	^	

Flush Tollet	0	0	0	0	0	0
Water-Seal Toilet	0	0	0	0	0	0
Compost Toilet	0	0	0	0	0	0
Ventilated Improved Pit Toilet (VIP Toilet)	0	0	0	0	0	0

5.1.3.2 - Western Communities	Bwatnapni	llamre	Gunn
Flush Toilet	0	0	0
Water-Seal Toilet	0	0	0
Compost Toilet	0	0	0
Ventilated Improved Pit Toilet (VIP Toilet)	5	20	15

5.2 AGRICULTURE

5.2.1	AGRICULTURE
Primary Crops	Kava is a crop of cultural and economic significance, especially for the people of Central Pentecost. In addition to being the largest source of income for locals here, kava is also used regularly in customary ceremonies and for recreational purposes, by males on the island. Pentecost Island is well known for its extensive taro gardens, although other root crops grow well here as well. Taro is also exported for sale in Santo and Efate. Banana is an another important staple crop.
Garden Space	Communities mostly indicated that they believe there is sufficient space for gardening activities on the island over the next ten years. However, community members in Bwatnapni, Melsisi, and Igi (Ilamre, Gunn, and Ila) all reported concerns over growing populations and a greater strain on available garden space nearby. Some households maintain gardens located on steep hillsides, which suffer from erosion and landslides. Pressure to find available garden space has also led to the resettling of villages along the eastern coast.
Agricultural Sales	There are infrequent local sales of agricultural products on Central Pentecost, including a small market in Levetlis on Thursday and in Igi on Sunday afternoons. There are several small roadside stalls as well along the vehicular road between Melsisi and eastern communities that sell produce. Most agricultural sales are made to markets in Santo and Efate, especially for kava and taro.

Food Security	Food security was not indicated as a concern for the communities assessed in Central Pentecost due to the abundance of agricultural activity on the island and the availability of food. Only minor damage was caused here by gale force winds during TC Pam and the impact on local gardens and communities was relatively low compared to areas further south.
Pests	Community members reported agriculture being affected by many pests including beetles that spoil root crops, caterpillars that harm kava, worms that damage watercress and island cabbage and diseases harming "lap-lap" leaves and water taro leaves.
Impact from Invasive Species	Bwatnapni, Melsisi, Gunn, Ila, and Levetnabal all report concerns of "American Rope" (invasive vine species) and certain wild weeds aggressively overtaking gardens and harming food security.
Diet (Use of Store- Bought Foods)	Most communities on Central Pentecost consume limited amounts of store-bought foods, especially along the eastern coast. On the western coast, the greater number of stores and access to store-bought foods has led to increased consumption of western foods.

5.2.2 Agriculture Inventory	None Available	Some Available	Plentiful
Coconuts			>
Kava			V
Coffee	~		
Vanilla	~		
Pepper (black or white)	~		

	None Available	Some Available	Plentiful
Cacao	~		
Fruits			~
Vegetables			✓

(*Note- very small quantity of cacao reported in Bwatnapni but it is otherwise not available in CP2 . Resources vary by community but these tables provide approximations for the collective Central Pentecost VCAP site))

5.3	FORESTRY
Summary of Forestry Activities	There is very limited forestry activities in Central Pentecost. There is a private nursery in Bwatnapni and some individuals plant white wood, sandalwood and mahogany. Most farmers report that they focus heavily on the planting of kava and taro. They were reportedly interested in planting forestry species, however there a no nurseries reported in CP2 where seedlings can be purchased and there is a need for training.
Primary Species	White wood, Sandalwood and Mahogany
Nurseries	Locals report that there is one private nursery in Bwatnapni, however, other community members do not have access to materials from this nursery.
Timber Sales	There are currently no commercial sale of timber taking place in the Central Pentecost VCAP site.
Erosion Control	Large scale erosion along upland footpaths was reported by several communities. In particular, the areas of upland roadways and footpaths between Melsisi on the west coast and Vanrasini on the east coast. As this accessway is the primary route to access services for eastern communities, erosion control measures are seen as a priority need for communities. The placement of vetiver grass and interventions by the Department of Forestry have also been requested, especially along steep hillsides where landslides have previously caused harm. Gardens where slope farming take place also suffer from frequent erosion events.

5.4 LIVESTOCK

5.4.1 Livestock Inventory

5.4.1.1 - Eastern Communities

	Levetnabal	Vanrasini	Laringmat	Levetlis	Onlaba
Chickens	1,000	200	150	200	200
Ducks	0	0	0	0	0
Goats	0	0	0	0	0
Pigs	500	300	200	200	500
Cattle	200	100	40	60	200

5.4.1.2 - Western Communities

	Bwatnapni	llamre	Gunn
Chickens	200	300	400
Ducks	0	1	0
Goats	0	0	0
Pigs	20	50	150
Cattle	20	25	50

5.4.2 Livestock Summary

	Livestock is an essential part of local food security in Central Pentecost due to a lack of participation in inshore fisheries activities.
Summary of Livestock	Eastern communities in CP2 have an abundance of livestock, which they report is related to their relative isolation and the difficulty that they have in transporting animals for sale / export. The consumption of livestock plays a significant role in the culture of Central Pentecost at events such as weddings, funerals and customary ceremonies.
Activities	In western and upland Pentecost, communities typically possess smaller quantities of livestock. The sustainable management of livestock resources has typically been a challenge in the area as well. For example, the Catholic Mission in Melsisi has forbidden the sale of its cattle the past few years in order to build up a sizable stock once again after it was nearly depleted.
	Pigs are the most culturally valued livestock on Pentecost Island for use in customary ceremonies, while cattle are consumed during very large events such as marriages and funerals. Chickens are often consumed by individual households.

5.5	ENVIRONMENT - UPLAND
Geography / Description of Environment	A mountain range spans the length of the island, of which the highest is <u>Mount Vulmat</u> (947 m) and divides the generally humid and rainy eastern coast and the more temperate western coast. The coastal plains are lined with many creeks and rivers and generally contain very fertile soil. Gardens are found throughout most the interior of the island except in some areas where steep hillsides has made this impractical. Competition for available agricultural space has led to households resettling along the eastern coast where there are larger pockets of undeveloped ground (in places such as Lalbung East).
Pollution	Minimum pollution on Central Pentecost in upland areas, aside from household waste that may be improperly disposed of.
Persistent Organic Pollutants (POP's)	There is no reported use or presence of POP's.
Water Catchment Areas	Some communities report that livestock and agricultural activities are taking place inside of water catchment areas and are adversely affecting their water supply and creating a serious problem, particularly for eastern communities. In Laringmat and Levetlis, there are reports of logging activities near water sources. Levetnabal and Onlaba both report that livestock regularly graze within close proximity of their upland water catchment area. There is no formal recognition or protection of water catchment area by communities.
Conservation Areas	No formally recognized upland resource management / conservation areas are present in the Central Pentecost VCAP site. There are some areas, especially on the eastern coast that are prohibited but this is due to traditional beliefs and protection of cultural sites rather than efforts to manage and protect resources.
Access to Traditional Building Materials	There is sufficient access to firewood in all communities on Central Pentecost.
Access to Firewood	There is sufficient access to firewood in all communities on Central Pentecost.
Erosion Related to Logging, Buildings	As there are currently no commercial logging activities on Central Pentecost, erosion related to such activities is low. Individual community members utilize chain saws for private logging, but the impact is minimal.
Invasive Species	Bwatnapni, Melsisi, Gunn, Ila, and Levetnabal all report concerns of "American Rope" (invasive vine species) and certain wild weeds aggressively overtaking gardens and harming food security. Cattle and pigs were also reported to regularly consume produce from local gardens.
Protected Species	Limited amounts of coconut crab can be found on Central Pentecost's eastern coast but they are generally consumed and not sold.
Mining	There are no reported mining activities on Central Pentecost with the exception of small roadside quarries utilized by PWD for materials for roadways.
Management Plan	There are no management plans for upland resources but all communities expressed an interest in establishing them.

5.5.1 Environmental Resource Inventory

	None	Some	Many
Coconut Crabs		~	
"Nawempa"			✓
Flying Fox			✓

	None	Some	Many
Fresh Water Prawns		>	
Fresh Water Fish		>	

6. COASTAL RESOURCES IN CENTRAL PENTECOST VCAP SITE

6.1	FISHERIES
	Fishing takes place at a subsistence level for some households within this area but many communities in CP2 rarely fish or collect marine resources either due to limited accessibility, shrinking fish reserves or because of limited experience fishing.
Inshore Fisheries Summary	The use of traditional canoes for fishing was reportedly very small within CP2. The rough seas along the east coast of CP2 make using a boat for fisheries activities impractical. Villagers consulted often reported that they had few opportunities to eat fish, with island cabbage serving as a main staple of their diet with which to provide them protein. The communities along Melsisi requested a F.A.D. during community consultations to help supply the immediate population with adequate levels of seafood and to alleviate the stresses inflicted on the local coral reefs.
Offshore fishing (Trolling or deep sea fishing)	There are no fishermen currently taking part in offshore or trolling activities in the Central Pentecost VCAP site. Previously, there was one fisherman from Melsisi who reportedly engaged in trolling or deep-sea fishing but at the time of this assessment he had stopped fishing activities for several months. This particular fisherman in Melsisi sold the fish domestically within the community and reported that demand for fish is overwhelming, even when the pricing per kilo of fish matches that of Port Vila.
Inshore Fishing Methods	Normally fishing activities are limited to fishing or spear-fishing for the smaller reef fish located closer to the shore.
Fisheries Exports / Sales	There are no fisheries exports and the only sale of fish reportedly took place in Melsisi, where "take-away" restaurants would cook and serve the catch.
Preservation	With the exception of Melsisi, there were no ice boxes available or utilized by communities to preserve fish.
Fish Aggregating Devices (F.A.D.'s)	There are no Fish Aggregating Devices (F.A.D.s) presently installed in the Central Pentecost VCAP site, however, Fisheries has sent one to Melsisi where it is currently in storage.
Resource Monitors	There is a "resource monitor", recognized by the Fisheries Department as having the authority to enforce fishing regulations and standards, located in Bwatnapni Village who has received training in marine resource management from Fisheries and the local NGO, Wan Smol Bag.
Coral Reef	Community members in Bwatnapni, Igi, and Levetnabal all report that their coral reef shows signs of coral bleaching. Other communities indicated that the small coral reef system appeared to be healthy.
Crown of Thorns Starfish (COT's)	Communities on both the eastern and western coasts of the Central Pentecost VCAP site such as Bwatnapni, Igi, Onlaba, and Levetlis have all reported increasing numbers of Crown of Thorns Starfish along their coastline.
Ciguatera	Low incidence of ciguatera poisoning reported locally.
Sea Cucumber	There is a limited amount of sea cucumber reported in Central Pentecost.
Traditional Conservation Methods	Chiefly authorities and traditional land owners often use a "tabu" system to block a certain portion of the coastline from fishing or the collection of marine resources. For the most part, locals respect existing "tabus" but there are cases where there are reported incidents of trespassing and continued harvesting of marine resources.
Marine Protected Areas (MPA's)	There are currently no registered Marine Protected Areas (MPA's) on Central Pentecost, However, several communities expressed an interest in the establishment of one.

6.2	ENVIRONMENT - COASTAL RESOURCES
Marine Pollution	There is a limited amount of reported marine pollution located within the area that includes some household waste and sediment deposits caused by upland erosion relating to agricultural and livestock activities.
Coastal Erosion	There is coastal erosion experienced in a few communities. Particularly affected areas include those portions of the communities where roads and houses are situated along the immediate coastline, particularly in Bwatnapni and a very small part of Melsisi. Most communities in this area have households situated on top of hillsides where coastal erosion cannot cause damage.
Sedimentation	Large amounts of sedimentation are reported in this area due to the heavy agricultural and livestock activities taking place here, especially in areas where hectares of forest have been cleared to plant kava. Communities in Bwatnapni and Lalbung East (Lalwok, Resal, Lebujubujuvet) report that areas along the coastline often have moderate amounts of sediment deposits in shallow waters, making inshore fishing more difficult.
Dugongs	There are three reported dugongs living near the western coastal waters of Central Pentecost near the community of Bwatnapni.
Sea Turtles	Due to increased awareness from Fisheries, there has reportedly been a large decrease in consumption levels of sea turtle in the area. Communities estimate that less than 5 turtles are consumed in each of the following communities: Igi, Levetlis and Onlaba; 10 turtles are consumed per year in Vanrasini and Levetnabal; and approximately 20 are consumed per year in Bwatnapni.
Mangrove Ecosystems	There are substantial areas containing mangroves in Central Pentecost, primarily located near the mouths of rivers or coastal springs. There are several kilometers of mangroves located between the coastal communities of Levetnabal and Lebujubujuvet on the island's east coast. A very small mangrove area is located within Bwatnapni on the western coast.
Sand Mining	Sand-mining takes place in some areas in Central Pentecost and may contribute towards towards coastal erosion although generally this erosion has not affected key infrastructure. Bwatnapni is particularly affected as upland communities also extract sand here as well and now some local in threatened by an infringing coastline. Levetlis and Melsisi also report some sand-mining activities but there are no reports that these activities have worsened coastal erosion.

6.3 COASTAL RESOURCE INVENTORY

*While resources differ by community- results indicated below are inclusive of results from every community in the Central Pentecost VCAP Site..

	None Available	Some Available	Plentiful
Reef Fish			~
Bottom-Fish (Pule, etc)			~
Sea Cucumber		>	
Trocha shellfish		V	
Lobster		✓	

7. NATURAL DISASTER & CLIMATE CHANGE - CENTRAL PENTECOST

7.1	NATURAL DISASTER
Tsunami / Storm Surge / Cyclone	Most communities in the Central Pentecost VCAP site are not particularly vulnerable to cyclone related storm surge or tsunami events as the majority of private homes and community buildings are situated above the coastline at higher elevations. Bwatnapni, some parts of Melsisi, Waterfall, Levetlis, Onlaba and Lalbung may be considered more vulnerable to these events.
Volcanic Activity	There is no active volcanic activity directly affecting the population of Central Pentecost.
Flooding	Flooding of homes and gardens was a reported concern among community members in Bwatnapni, Igi (Ilamre, Ila), Onlaba, Levetlis, and Levetnabal. During heavy rains the rivers on the island flood and prevent access for some villagers to key services as they must wait for flood levels to subside. The primary vehicular road between the area's west and east coast has several sections that become impassable during flood events.
Erosion to Infrastructure	Upland erosion is a particular problem affecting local footpaths, which are relied upon by communities to access key services. Coastal erosion along the primary footpath between Lalbung East (Lalwok, Resal, Lebujubujuvet) and Vanrasini is often unsafe to travel on during inclement weather. The communities of Bwatnapni and Igi (Ilamre, Gunn, Ila) both reported erosion damaging the area's primary vehicular road and footpath, private residences, gardens, and public spaces inside of villages
Landslides	Bwatnapni, Melsisi, Igi, Laringmat, Levetlis, Levetnabal, and Vanrasini all reported landslides that have affected agricultural resources on Central Pentecost as there is much slope farming here.
Drought	Pentecost is reportedly rich in rainfall with its steep mountain geography attracting & producing rainfall for communities. Drought associated with El Nino has not caused significant threats to food and water security here as it has on other islands in Vanuatu.
Recent Disasters of Note	Cyclone Pam did not hit Pentecost directly in 2015, but the gale force winds experienced were strong enough to damage local gardens, impacting agricultural output for the next year, especially on the eastern side of CP2.
Community Disaster Committees (CDC's)	There are no reported Community Disaster Committees (CDCs) that have been established in the Central Pentecost VCAP site.
Disaster Plan	Communities have no formalized disaster plans on Central Pentecost and often are slow to prepare for impending disasters such as cyclones.

7.2	DISASTER WARNING
Radio	Levetnabal, Melsisi and Igi report utilizing radio broadcasts to receive disaster warnings.
CDC's	There are currently no reported CDC's in the communities assessed on Central Pentecost so these CDC's have not assisted with warnings.
TVL / Digicel SMS Warnings	Bwatnapni, Igi, Levetnabal and Vanrasini all report utilizing TVL / Digicel SMS warnings, especially during Tropical Cyclone Pam.
Family or friends from Port Vila	Bwatnapni, Levetnabal, Igi, and Vanrasini discussed using family and friends as a source of information concerning an impending disaster such as a cyclone.
Traditional Knowledge	Bwatnapni, Igi, Laringmat, Levetlis, and Onlaba reported relying at least partially on traditional knowledge to predict disasters or issue warnings.
No warning	Villagers in Laringmat, Levetlis and Onlaba also report that at times they have had no prior warning of an impending disaster such as a cyclone. Some in this area were not aware Cyclone Pam was about to strike until gale force winds had arrived.

7.3	DISASTER SHELTER
Status of Disaster Shelter by Community	There are no communal disaster shelters on Central Pentecost. The traditional practice of households building cyclone shelters using local materials is becoming less common and rather community nakamals are relied upon along with other sturdy buildings available to the community such as classrooms and church houses.
Additional Community Buildings Used as Shelter	The majority of communities on Central Pentecost utilize traditional "nakamals" (community halls) as disaster shelters. Melsisi on the west coast is able to utilize a large community hall, made of permanent materials and attached to the Catholic Mission. There are few strongly built communal buildings located on the east coast, including Levetlis, which utilizes a local women's club. Otherwise, community members will use classrooms, church buildings, health clinics, or private residences built from permanent materials.
Typical Building Materials Used / Condition - Housing	Many houses on Central Pentecost's west coast are a combination of semi-permanent buildings constructed with local timber and copper roofing as well as more traditional homes made with grass or thatch roofing. However, on the east coast the majority of households are constructed using traditional materials.

7.4	CLIMATE CHANGE
Sea Level Rise Observed?	Yes, sea level rise is observed particularly on the western coast in places where houses and roadways are located close to the coast.
Sea Level Rise Affecting Infrastructure?	Not yet, but roadway and some infrastructure near Bwatnapni and Melsisi at risk. Sea level rise may threaten the coastal roadway between Lonorore Airport and Melsisi where in the future.
Water Security - Impacted by Climatic Effects?	Sedimentation commonly occurs to gravity feed water systems in Melsisi after moderate rainfall. Drought periods greatly impact water security on the east coast where some households rely on rain harvesting as a means of water security.
Food Security - Impacted by Climatic Effects?	Food security severely threatened by increased likelihood for severe disasters and extreme weather events., increased temperatures and seasonal fluctuations.

7.5 OBSERVED CLIMATIC CHANGES BY COMMUNITY (OVER LAST 20+ YEARS)

	Yes	No
Increased Rainfall (total amount per year)?		~
Increased Occurrence of Drought?		~
Increased Temperature?	~	
Seasonal Changes? (timing of rainy / dry season)	/	
Bleaching of Coral Reef?	~	
Salt water intrusion of drinking water?		~

8. COMMUNITY SELF-IDENTIFIED PRIORITIES FOR DEVELOPMENT - CENTRAL PENTECOST

*At the conclusion of each Vulnerability Assessment, communities were asked to divide into focus groups and identify two leading priorities for development for their entire community, not necessarily for the membership of their focus group alone. This activity allowed for group discussion of vulnerabilities and for the prioritization of needs. Communities were encouraged to identify actions that could be taken themselves instead of being wholly dependent on external donors.

8.1	No of Participants	BWATNAPNI
Women's Focus Group	23	Market house - construction of community market house that may also function as a disaster shelter Income generation - construction of community guest house for income generation purposes
Men's Focus Group	12	Water security - installation of gravity-fed water supply system Coastal erosion control - measures taken along beach to prevent continued coastal erosion, controlling sand-mining activities
Youth Focus Group	7	 Music - obtain a community sound system for social events and for encouraging local youth musicians. Fisheries support - provide technical training and materials to support inshore fisheries activities and food security

8.2	No of Participants	MELSISI
Key Respondent Interviews	15	Improve water security - maintenance of existing gravity-fed water supply system Pedestrian bridge - construction of pedestrian foot bridge over water crossings

8.3	No of Participants	ILAMRE
Women's Focus Group	10	Improve water security - installation of rain catchment tanks Disaster shelter - need for a safe location where community members can evacuate during a cyclone or emergency
Men's Focus Group	10	 Improve footpath - "climate proofing" from Ilamre / Gunn / Ila to coastline to improve access to inshore fisheries and support food security Disaster shelter - need for a safe location where community members can evacuate during a cyclone or emergency
Youth Focus Group	14	 Sports - revival of sports program in community Fisheries support - provide technical training and materials to support inshore fisheries activities and food security

8.4	No of Participants	Gunn
Key Respondent Interviews	15	 Water security - installation of rain catchment tanks for rain water harvesting Pedestrian bridge - construction of pedestrian foot bridge over creeks

8.5	No of Participants	RANWADI / WATERFALL
Key Respondent Interviews	20	Water security - assess viability of expanding current gravity-fed water system to include households without access Improve vehicular road - install drainage and improved road materials (cement) along all slopes, including road passing through Vansemwaku to upland communities

8.6	No of Participants	ONLABA
Women's Focus Group	14	Income generation - provision of materials for supporting local handicrafts, a vat for "red mats" Improve footpath - "climate proofing" of primary footpath between Levetlis and Tsinbwege
Men's Focus Group	18	 Improve footpath - "climate proofing" of footpath between Onlaba and Lambok Water security - installation of 1,100L rain catchment tank
Youth Focus Group	5	 Sports - revival of sports program in community Water security - assess expansion of existing gravity-fed water system

8.7	No of Participants	Lalwok
Key Respondent Interviews	25	 Improve footpath - "climate proofing" of footpath from Lebujubujuvet to Vanrasini Water security - installation of gravity-fed water supply system

8.8	No of Participants	LEVETLIS
Women's Focus Group	18	 <u>Disaster shelter</u> - need for a safe location where community members can evacuate during a cyclone or emergency <u>Sanitation</u> - construction of improved toilets (water seal toilets)
Men's Focus Group	21	 Renewable power - provision of hydro-electric power using river Health - upgrade / maintenance to Tsinbwege health center
Youth Focus Group	15	Renewable power - provision of hydro-electric power using river Health - procurement of emergency transport boat to replace boat belonging to Tsinbwege Dispensary lost during TC Pam

8.9	No of Participants	LEVETNABAL
Women's Focus Group	7	Water security - installation of rain catchment tanks, including near Tsinbwege health clinic - to replace those damaged by TC Pam Improve footpath - "climate proofing" of main footpath to Vanrasini
Men's Focus Group	16	Improve water security - maintenance / upgrade to existing gravity-fed water system Improve jetty / wharf - improve accibility for local ships at point occasionlly used at Salaba
Youth Focus Group	12	 Improve footpath - "climate proofing" of main footpath to Vanrasini Pedestrian bridge - construction of pedestrian foot bridge over large river in Salaba, improving access to education, healthcare and transportation services

8.10	No of Participants	LARINGMAT
Women's Focus Group	14	Livestock practices - placement of livestock fencing to support food security and erosion control efforts Income generation - construction of community guest house for income generation purposes
Men's Focus Group	12	 Improve footpath - "climate proofing" of footpath between Levetlis to Tsinbwege Fisheries support - provide training on coastal resource management and inshore fisheries practices
Youth Focus Group	31	 Food security - provide training on household gardening and agricultural practices Solar power - installation of solar power system to support community services

8.11	No of Participants	Vanrasini
Women's Focus Group	25	Income generation - provision of materials for supporting local handicrafts, a vat for "red mats" Income generation - construction of community guest house for income generation purposes
Men's Focus Group	10	 Improve footpath - "climate proofing" of primary footpath to Levetlis Livestock practices - placement of livestock fencing to support food security and erosion control efforts
Youth Focus Group	N/A	N/A (Youth were unavailable for consultation due to community work being performed at the time of assessment)