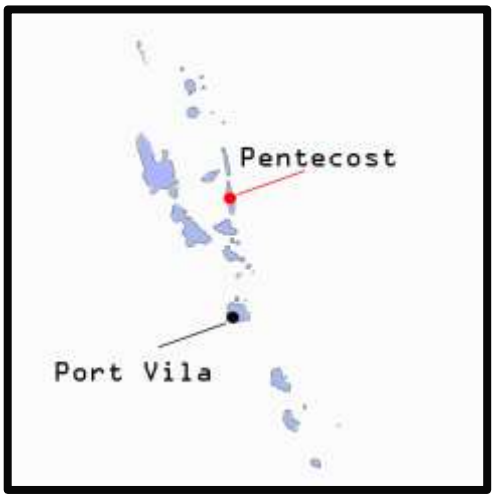
CP2 & CP 1 Area Councils
Pentecost Island, Penama Province

1 Project context and background

Penama Province, Vanuatu is comprised of the three islands of Pentecost, Ambae and Maewo. It has a total population of 30,819 people based on the latest Census by the Vanuatu Statistics Office and a total land mass surface area of 1,193 km². The provincial capital is located on the island of Ambae at Seratamata.

Pentecost Island is the largest and most populated island in Penama Province with an area of 490 km² and a total population of 16,843 people according to the 2009 Census with an annual population growth rate of 1.8%. The island stretches north to south a distance of around 60 kilometres with an average width of less than 10 kilometres. There are four Area Councils on Pentecost: (from North to South) North Pentecost, Central Pentecost 1 (CP1), Central Pentecost 2 (CP2) and South Pentecost, which collectively contain over 50 villages with populations exceeding 100 people. The VSO recorded over 250 communities in total living in Pentecost, with populations ranging from a single household up to 307 villagers.



Map of Pentecost in relation to Port Vila

Underneath the four Area Councils on Pentecost, there are 23 Ward Councils, which are collections of “nakamals” or chiefly associations. There are 190 “nakamals” on Pentecost as reported by the Penama Provincial Government Council.

North Pentecost is relatively more developed than other parts of the island and has the largest population with over 5,800 residents, although there are significant infrastructure challenges present there as well. Central Pentecost 1 has just over 2,500 inhabitants who are primarily located on the western coast and middle portion of the island. Central Pentecost 2 has nearly 4,000 inhabitants with a quarter of the population living along the remote and inaccessible eastern coast. South Pentecost is home to over 4,500 residents and is where the island’s thriving tourism “land-diving” or “Nangol” activities take place.

A mountain range spans the length of the island, of which the highest is Mount Vulmat (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 are generally contain very fertile soil.

There are 4 Area Secretaries employed by the Penama Provincial Government Council, each working within their respective 4 Area Councils. As of early 2014, a provincial sub-office was under construction in Central Pentecost 2, at the Melsisi Catholic Mission.

There is significant road development on Pentecost with varying degrees of accessibility during inclement weather. A primary road spans the entire length of the island from North Pentecost to South Pentecost and is targeted by Phase 2 of the Aus Aid funded VTSSP to begin in 2014. This road is increasingly inaccessible due the impact of inclement weather, land erosion, flooded rivers and creek beds and decaying infrastructure caused or exacerbated by CC. There are numerous secondary roads connecting large numbers of villages in the interior to the primary road along the western coast. These secondary roads are typically in average to very poor condition and many portions of road are currently impassable, especially in inclement weather conditions.

Possible VCAP improvements in regards to climate proofing segments of road that connect communities to the primary road to be improved by VTSSP include: adding cement to inclines leading to villages above Vansemwakul, providing drainage and cement as needed on the road proceeding through Tansip to Lalak as well as restoring an additional kilometre of road extending past Lalak, providing drainage and weather-proofing of the road proceeding to Lewawa, and finally climate proofing the stretch of road used frequently by kava growers which is inaccessible by truck starting at Vanrewewep and proceeding south to CP2.

Road leading to Lalak Village inundated with water

Along the central eastern coast of Pentecost, there are scattered communities that are relatively inaccessible. An increasing number of people are settling along the east coast due to growing population pressures and water security issues present in some areas along the interior. Villagers rely on several footpaths to cross from the eastern coast and must climb a very steep and mountainous ridge before eventually descending to the middle or western

communities. These footpaths are in poor condition and elderly, young, sick and disabled people are often not able to utilize these access-ways unless a team of able-bodied men physically carries them over the mountainous terrain during times of emergency. The most frequently used footpath from the east begins at Vanrasini village, spans around 4 - 5 kilometres and connects to Lalak village, which is currently accessible by truck in dry conditions.

Main footpath leading to remote communities on eastern coast of CP2

A former vehicle road in east CP2 was used roughly 20 years ago to provide access from the only shipping port Levetlis around 9 kilometres to the Catholic mission Tsinbwege, where the school and health centre is located. The restoration of this road is indicated as a major community need, as transporting cement, sand and other kilometres is currently a rigorous activity which delays much development along the eastern coast, especially for Tsinbwege

where service delivery is provided to the population through the school, church and health centre. If the road could be restored to even allow access for a simple quad bike and trailer, this would greatly speed up the process of possible VCAP implementation in this area.

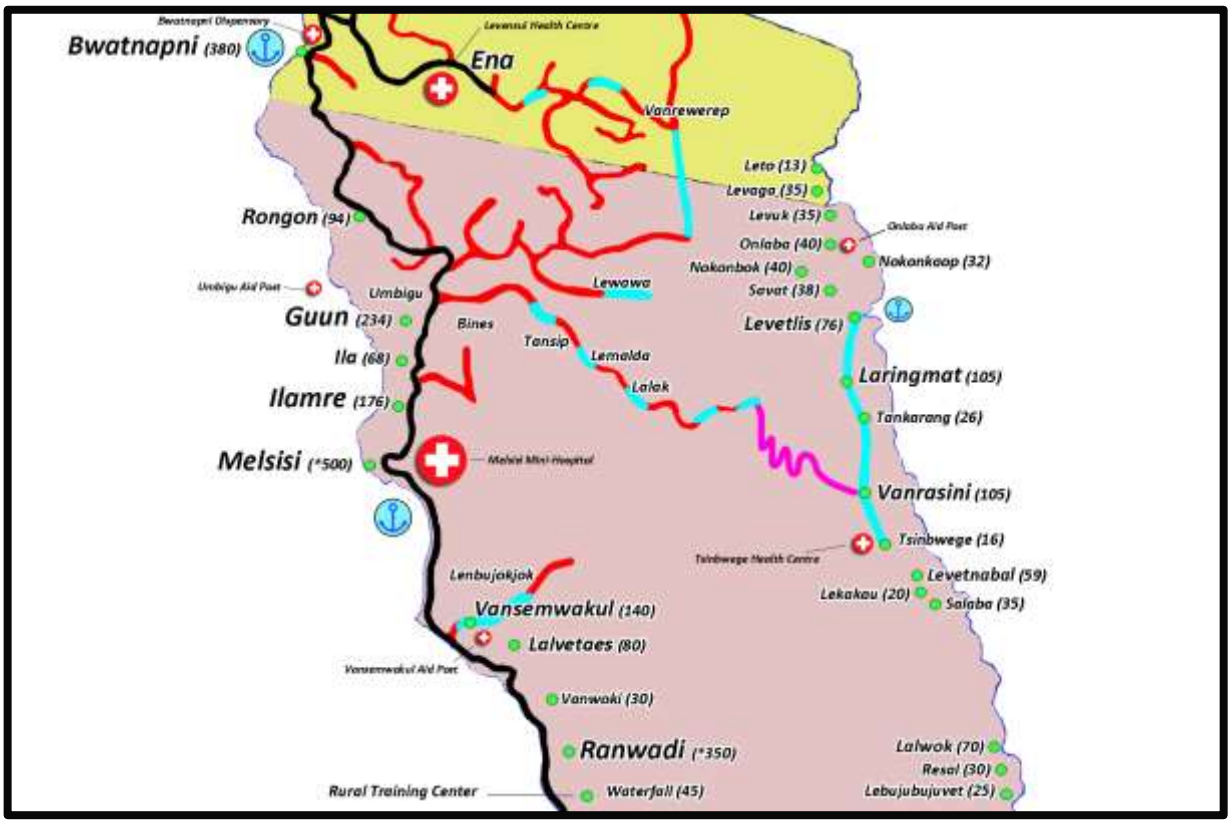
Regular commercial shipping services regularly access coastal communities along western Pentecost, mainly to collect kava for export to Port Vila, among other agricultural produce. There are no permanent wharf structures used on the Central western side of the island, often cargo is loaded on ships by small boats that carry goods back and forth from the shore. Frequently used ports include Bwatnapni village and Melsisi in Central Pentecost. Only one commercial ship currently services the eastern coast of Central Pentecost infrequently- due to the strong tide and rough seas on this part of the island. This ship is called the “Island Claws” and it accesses a very small harbour at Levetlis village approximately 2 to 3 times a year.

There are two airports on Pentecost Island with regular flights operated by Air Vanuatu, one located in North Pentecost, a grass landing strip at Sara airport and a tar-sealed airport located in South Pentecost at Lonorore. Tourists regularly fly into South Pentecost for day trips during the tourist season, primarily from April to June.

2 Proposed project site and resources

2.1 Proposed site

The proposed project site is focused within CP2 (with a few villages from CP1 following shared water catchment areas with CP2) and the villages within the target area are outlined in the map and table below:



(Map of Pentecost V-CAP Site – Green markers indicate target villages)

Province	Island	Village	AC	Immediate Beneficiary	*Additional Beneficiary	M	W	Total
Penama	Pentecost	Bwatnapni	CP1	380	0			380
Penama	Pentecost	Rongon Area: (Lekavetkaimel, Wadungmavwe & Leradowo)	CP2	94	0			94
Penama	Pentecost	Igi Area: (Guun, Ilamre, Ila)	CP2	478	0			478
Penama	Pentecost	Melsisi	CP2	500	0			500
Penama	Pentecost	Vanmalong Area: (Vansemakul, Lalvetaes, Vanwoki)	CP2	250	0			250
Penama	Pentecost	Randwadi / Waterfall	CP2	395	0			395
Penama	Pentecost	Bansangol- East coast: (Leto to Levetlis)	CP1 & CP2	309	0			309
Penama	Pentecost	Lalda- East coast: (Laringmat to Tsinbwege)	CP 2	252	0			252
Penama	Pentecost	Lebati East coast: (Levetnanbal to Lalmamring)	CP2	239	0			239
Penama	Pentecost	Remaining population of CP2			1481			1481
Penama	Pentecost	Remaining population of CP1			2109			2109
Penama	Pentecost	GENDER				3240	3247	
			TOTAL	**2897**	**3590**	**3240**	**3247**	**12974**

Male to Female % for Pentekost island according to 2009 Census is: 0.99798399

Gender data disaggregated by applying this Male to Female ratio against 2009 Census data for total Area Council population figures provided by the VSO for CP1 & CP2.

Data derived from 2009 Census figures provided by VSO along with updated data collected during community consultations with Provincial Area Secretaries & World Vision Office in Pentecost.

*Additional Beneficiaries - Pentecost: *A large portion of the population will benefit from services provided by V-CAP in Central Pentecost including the increased access to services that will be provided by Climate resilient infrastructure improvements, including footpaths and roadways connecting to the VTSSP road works project. The Mini-Hospital, the most developed health care facility on the island, is located within the project site at Melsisi. Banking, educational, religious and provincial government services are also provided within this site where increased mobility and improved access to service delivery is a key deliverable. Every community within Central Pentecost, not only the coastal communities targeted by V-CAP, will*

benefit from upland and coastal resource management programs with fisheries, agriculture, forestry and livestock components, as they will have the opportunity to take part in the knowledge sharing and implementation of V-CAP activities or replication within their communities.

2.2 Planning and local governance

2.2.1 Traditional System

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”.

Some villages form larger, chiefly associations collectively which are commonly referred to as “nakamals”. However, some villages in Central Pentecost are independent, meaning that no other villages are linked to their “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.

A Chairman, either of a village Development Committee or of the Chiefly Council is often elected by the chief or the village committee on merit in order to help organize the community to work. Many times a chief will hold simultaneously hold the position of Chairman on Pentecost.

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.

2.2.2 Ward System

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

There are 11 Ward Councils in side of the CP2 Area Council and residents from these councils will be targeted during the project implementation phase along with 2 Wards from CP1 Area Council, which contain villages sharing water catchment areas with the target site in CP2. During community consultations with the VCAP design team, there were mixed reports on the functionality of the Ward system in Central Pentecost. Some villagers reported that the Ward system was not operational in their given area, due to a lack of organizational planning or an operational budget. However, some Ward council representatives report that they occasionally held meetings, especially to resolve minor land disputes or to hold disciplinary hearings.

2.2.3 Area Councils

The Penama Provincial Government has recently established its Area Councils within the target area, Central Pentecost 2 (CP2) and Central Pentecost 1 (CP1). The Area Councils include Area Councillors consisting of village representatives who live within the respective "area" consisting of Chiefly reps, Women reps, Youth Reps, Disabled Persons reps, Church reps and Business House reps. While representatives from the CP1 & CP2 Area Councils have been selected and an initial meeting has taken place, the Area Councils are still very much in the need of structure and guidance. A budget of 596,324 VT for 2014 has been allocated by the national government through the DLA to each Area Council in Pentecost, so that government services may be further decentralized.

Two Area Secretaries have recently been appointed in 2014 to serve the provincial government in the 2 Area Councils located within Central Pentekost. Their basic duties will include the following services: tax collection, voter registration, government information dissemination, Statistics enumeration duties and assisting development projects within their respective Area Councils.

There is an office building under construction in CP2 at Melsisi as of March 2014, where the Area Secretary of CP2 will be based, along with other possible government officers to be stationed at Central Pentecost, such as police officers.

2.3 Brief profile

2.3.1 Marine and coastal areas:

Fishing is present at a subsistence level for some households within the project site- 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. Normally fishing activities are limited to fishing or spear-fishing for the smaller reef fish located closer to the shore.

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. In the west, there is only 1 fisherman from Melsisi who regularly uses a motorized boat to go trolling or deep-sea fishing for larger species such as wahoo and tuna. This particular fisherman in Melsisi sells the fish domestically within the community and reports that demand for fish is overwhelming, even when the pricing per kilo of fish matches that of Port Vila. 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.

A number of "kastom" or "tabu" marine managed areas have been established by communities along both the west and east coasts of CP2. These are managed through traditional systems with decisions on the management of these sites made by a chiefly council. There are a range of management systems in place for these sites, often allowing a fishery to recover its harvestable populations; although, sometimes communities report that a reef "tabu" will be lifted indefinitely leading to a significant reduction in coastal resources.

The project site does not contain any marine Community Conservation Areas (CCAs).

There are 2 locals serving in the NGO Wan Smol Bag Marine Monitoring Network known as "Turtle Monitors." They are located in Melsisi and Vanmalong. Network Monitors actively monitor the coastal marine environment, to tag turtles and report their findings at the annual Monitoring Network Meeting. Although this turtle conservation project is present within Central Pentecost, communities reported the regular consumption of turtles. During community meetings in Bwatnapni, Melsisi, Vanmalong & East Pentekost, villagers estimated that each of their communities killed and ate between 5 – 10 turtles annually. The communities considered this to be an insignificant number, although collectively it would considerably reduce the turtle population within Vanuatu waters. Only the Igi area was adamant during community consultations that their communities did not consume turtles.

Dugongs, another protected marine species, were reported along the west coast of Central Pentecost, from Bwatnapni down to Vanmalong. Most communities along the West of CP2 believe there are between 2 – 5 dugongs living along their coast and report frequent sightings. Communities indicated that they did not kill or eat the dugongs within their areas.

Of grave concern to the communities in East CP2 is a commercial fishing vessel that is regularly spotted fishing just outside of the coral reef. Normally it operates at night but villagers have observed the fishing boat retrieving its catch from a long net in the very early morning on several occasions. They have reported this issue of illegal fishing to Fisheries department but continue to observe the problem occurring.

2.3.2 Terrestrial –

Upland agriculture

The target communities generate a majority of their income through agricultural activity, especially the sale of kava. The planting and sale of fresh kava to supply the production of "ready-made" kava bars in Port Vila has increased to become the primary source of income generation for most communities in the area. Fresh kava is harvested in CP1 & CP2 and then transported to either Bwatnapni or Melsisi each week for shipment and sale to Port Vila. Depending on the location of a community's kava gardens, transport of the kava to allow for shipment can be especially difficult or expensive. Some local growers hire trucks to transport their kava to the main wharf, although there are complaints that a large percentage of their profits are lost due to high transport costs caused by the deteriorating condition of the roads. Some kava growers use horses to transport bags of kava to the ports. Others, including women and youth, carry heavy bags of kava on their backs and walk great distances so that they may sell their harvest.

(Woman transporting bag of kava to Melsisi)

Along the east coast of CP2, some kava farmers semi-process their harvest, cutting the kava and drying it in the sun to produce “kava chips.” These kava chips are then purchased from an agent in South Pentekost, who charters a boat to travel to Letvetlis along the east of CP2 to make purchases. The agent purchases the kava on behalf on an exporter located in Luganville, Santo for further processing and eventual international export. The profit to be made from “kava chips” is smaller than that of fresh kava, however communities on the east coast of CP2 often prefer to sell “kava chips” due to the relative ease of transport. Otherwise, they must transport fresh kava on their backs over the mountains along the muddy and steep footpaths that eventually provide access to the shipping ports in the west.

Copra is occasionally sold if the market price fluctuates favourably. Historically, copra was a focus in this area but due to fluctuating market prices the local population has been trending away from this commodity over the past decade.

There is very little diversification in the agricultural produce developed on Pentecost. Vegetables and fruits are not sold commercially and are consumed on a seasonal and limited basis. Taro is the main crop grown for local consumption on Central Pentekost, with limited sales taking place in places such as Melsisi, where there are church employees and teachers with no personal gardens. Villagers sell mainly taro, bananas and greens at Melsisi, outside of a local store every Thursday. Island cabbage provides the main source of protein for villagers here along with coconut milk used while cooking. Tinned fish and tinned meat is often used to supplement the local diets due to a lack of fresh meat.

There is little to no value-added production of agricultural products taking place on Pentecost.

The production of hand-woven mats and baskets generates the next highest level of income for local residents in Central Pentecost. The women are especially talented in CP2 in the weaving and dying of mats and baskets, which are sold to residents from North Pentecost and South Pentecost as well.

There are no forestry projects or forestry nurseries located within the target site in CP2. Villagers reported to have interest in but little knowledge of the planting of commercial tree species.

Livestock production and sales are extremely limited in Central Pentecost. A majority of the population indicated during consultations that they raise chickens and pigs mainly for domestic consumption rather than for income generation. Livestock is occasionally sold domestically on the island. There are significant numbers of cattle at Melsisi, although the Catholic mission has put a temporary ban on sales in order to increase the quantity of their stock.

Tourism does not currently produce revenue for locals within the target area with most tourism activities taking place in South Pentekost. However, there is a small exception at the southern border of CP2 at the “Waterfall” community where occasionally guests stay at the local bungalow and go on tours to the nearby waterfall. Improved roadworks delivered by VTSSP will likely improve access to tourism opportunities within CP2.

Upland aquaculture and freshwater management

There are currently no organized freshwater aquaculture activities taking place in Central Pentecost, however, chiefly councils in the target site along the east coast of CP2 have created traditional “tabus” along a certain river and connecting streams to manage the sustainability of fresh water prawns and eels.

Communities indicated an interest in starting small scale fresh-water tilapia farms in Central Pentecost to assist in providing an alternative source of meat / protein, especially in locations where resources or access the marine fisheries is limited.

Water supply

Communities within the target site have a variety of means for providing water supply. These range from:

- ***Gravity feeds*** from ”water sources”, typically small springs, where the water has been contained and is then piped – often over a number of kilometres to the village where there are typically shared taps to provide water to a number of households. Often sedimentation occurs after heavy rains and a lack of a filter makes these supply systems frequently unsafe for drinking purposes. The Basangol communities indicated that land usage near their water source, such as agricultural developments and livestock, has created problems. The Melsisi water supply system frequently loses water pressure and is in need of an additional holding tank, especially with its large student population. The community at Ranwadi Secondary School reports that a community at a higher elevation sometimes disconnects their water supply in order to collect water from the school’s gravity feed system. Communities along the east coast of CP2 have not received donor assistance in the installation of their water supply systems- instead they have shown self-reliance in funding and installing a gravity feed system by themselves in some communities.
- ***Tank supply from metal roofs*** – There is a significant number of rainwater tanks (both cement and poly tanks) along the western coast of CP2. Rain tanks are used by smaller communities in the highlands in CP2 as there are often no gravity feed supply options in communities located at higher elevations. The east coast of CP2 has a shortage of water tanks due to the area’s inaccessibility and a decreased number of buildings with metal roofs.
- ***Open containers***– plastic containers, buckets, drums and other various containers regularly used by villagers to collect rainwater for later use.
- ***Pumps & wells***- pumps and well are not used by communities within the target site.
- ***Rivers and streams-*** Water collected straight from rivers and streams by many households in Bwatnapni, Levuk, Vanbok, Nokakaop and Onlaba.

The provision of secure water supply through all seasons was a high priority of most communities consulted. Communities highlighted a number of issues in relation to water supply. These are highlighted in the following sections.

2.4 Other socio-economic information

Health

Within the target area in CP2 & CP1, there is 1 Mini-Hospital, 1 Health Centre, 1 Dispensary and 3 Aid Posts. The Mini-Hospital is located in Melsisi is staffed by 1 Registered Nurse and 2 Nurse Practitoners, along with 4 support staff. It is the primary health care facility in Central Pentecost, taking on the more serious referrals coming from Aid Posts, Dispensary or Health Centre. The staff at the hospital indicated that the Department intends to eventually place a doctor at this site. In 2012, the French Army provided renovations and constructed new buildings at the Mini-Hospital.

The Health Centre is located along the east coast of CP2 at the Catholic mission in Tsinbwege. It is staffed by a 1 Nurse Practitioner, who is capable of providing basic medical treatment. This nurse often assists with childbirth but will refer any possibly complicated deliveries to the Mini-Hospital in Melsisi. Sick patients who must be transferred to the Mini-Hospital must be carried by stretcher by groups of able-bodied men over a dangerously steep and muddy footpath.

The Dispensary in Bwatnapni provides minor medical care and is staffed with a full-time nurse. The three Aid Posts in the target area are located in Umbigu, Vansemwakul & Onlaba. They provide very basic medical care such as providing dressings for sores, painkillers and anti-biotics. They are operated by Village Health Workers who have undergone a 2 month training program sponsored by Save the Children and who have also volunteered at local health facilities, shadowing nurses on the job. The Village Health Worker in Onlaba receives a very small allowance from the Penama Provincial Government Council as compensation for her work.

Malaria is a large health concern as reported by Bwatnapni and also communities in East Pentecost. The last time that health officials distributed mosquito nets in east CP2 was in 201 as reported by villagers. Malaria rates are on the decrease in general though as reported by the population. NCD's such as diabetes and high blood pressure are prevalent in Central Pentecost, especially along the western coast.

Sanitation and hygiene appear to be problematic issues within Central Pentecost and currently the International NGO World Vision is performing work fieldwork within the target site. World Vision, in addition to water security projects, has been promoting improved toilet systems, such as VIP toilets, to select communities within CP2 as well as hand-washing stations. Some households within CP1 and CP2 do not have access to even long-drop toilets or sufficient water with which to wash their hands. The community of Melsisi complained during their community meeting that they have been disposing of their waste by throwing it off the side of a cliff. The community worries that the waste they discard off the side of the cliff may accumulate to the point where it harms their coastal fisheries, due to the proximity of the dump site to the coastal waters.

Finance

There is only one National Bank of Vanuatu (NBV) branch located within the target site at Melsisi Catholic mission. The villagers along the eastern coast of CP2, especially teachers and nurses walk approximately 9 km along the muddy and steep footpaths leading to Melsisi every two weeks to access this NBV branch. There is another NBV branch located in Enna village in CP1 (outside of the VCAP target site), which villagers from the Bwatnapni & Basangol areas access as needed. Western Union services are also available at Melsisi & Enna, which is how many villagers receive their payment from Port Vila kava shipments.

Security

There are no police officers located on the island of Pentecost. If an emergency arises, police are either flown in from other islands or the police boat from Seratamata, should their be enough funds available for transport. Most often, the chiefly councils handle criminal cases and serious cases requiring police assistance can be delayed for months and years due to the absence of police officers on Pentecost.

Government Extension Workers

There are no government extension workers representing the Fisheries, Agriculture, Forestry or Livestock departments present in Central Pentecost. There are provincial Agriculture and Livestock officers located in Seratamata, Ambae only.

Schools and education

There are five schools located within the target area:

School Name	Language	Classes	Students
Bwatnapni Primary	English	1 - 6	164
Bwatnapni Secondary	English	7 - 10	155
Melsisi Primary	French	1 - 6	216
Melsisi Secondary	French	1 - 8	223
Ranwadi Secondary	English	7 - 13	315
Umbigu Primary	French	1 - 6	192
Tsinbwege Primary	French	1 - 6	101

Pre-school classes are attached to a majority of these schools and there a large percentage of their students enroll their children in pre-school classes.

2.5 Other development projects

- VTSSP- Phase 2 of Australian Aid funded road works project focused on improving primary roads on Pentecost island from North Pentekost to South Pentecost. Climate proofing of roads and bridges to improve access along primary road in Pentecost will be a main objective.
- World Vision- has an office located in CP2 with an integrated program working with select communities in CP2 to improve water security and to promote improved toilets, sanitation, early childcare / education, and gender rights.
- Wan Smol Bag, a Vanuatu NGO, has targeted several communities in Central Pentecost, for their Turtle Monitor program, which promotes marine community-based conservation efforts.
- There is a small presence of United States Peace Corps Volunteers working in CP2 (3 in 2013), focusing mainly on English literacy, computer skills and assisting Aid Posts and Health Centres with WASH initiatives.
- Save the Children, supports a network of Village Health Workers operating Aid Posts on the islands through supplies for Aid Posts, medicines and trainings.
- The French army recently provided assistance in renovating the Mini-Hospital in Melsisi, in 2012 and also constructed a few additional buildings for this health facility

3 Overview of key climate change vulnerabilities, threats and priorities for action.

At the community level there were detailed discussions were held at 12 community meetings, consultations with service providers in the area such as Penama Province and World Vision, and through village inspections and upland and coastal inspections. These are outlined in Annex 1.

A wide-range of development and climate related development issues were highlighted at each of the consultations. The analysis of outcomes of the stakeholder consultation and site inspection process on Pentecost Island, combined with information gathered from government sources (including national, provincial and area council initiatives and plans), NGO and development partner projects (current and upcoming) has resulted in identification of a number of integrated development and climate change related challenges to address immediate priority development issues to build long-term resilience to climate change. These are outlined in the table below (please see next page).

3.1 Vulnerable Groups

During the discussions with women, youth, elderly and disabled persons at community level, and with provincial sub-district staff and committees, the primary development concerns expressed included:

- Women along the eastern coast of CP2 have complained that their access to medical care is extremely poor. They cited several cases where women who experiencing difficulties in childbirth were transported to Melsisi by a group of men who created make-shift stretchers, following a steep and muddy footpath. Several women and children have died during these rigorous commutes. They expressed an interest in improving the footpaths to increase accessibility to the western coast of CP2, as trucks and boats cannot access the eastern coast. Elderly and sick residents of CP2 also face difficulty in travelling along the footpath in its current condition.
- Women are concerned about the loss of productivity in their gardens, especially concerning taro. They report the size of their taro yield is decreasing.
- Women talked about their desire to have better income-generating opportunities. Many women's clubs specifically are seeking solar lighting systems and aluminium vats (used for dying mats and baskets) so that they may strengthen their associations, which currently sell mats and baskets collectively on the village level.
- Students from east Pentecost continuously trek across a potentially dangerous footpath leading from the east to their schools in Bwatnapni, Ranwadi & Melsisi. The students complain that is impossible to cross safely over creeks along this footpath and there is excessive mud and flooding during rainy conditions.
- Many families are concerned that their children have no safe means to cross the flooded streams and rivers after rains along both the west and east coasts of CP2 and CP1. They desire pedestrian crossings, such as the one located in Melsisi.
- Church leaders indicated that many women and children are unable to attend religious services on Sunday if there is rain on Saturday, due to impassable river and creek crossings.

- Mini-hospital staff were concerned that many women suffer during childbirth and cannot access the appropriate health facilities due to the condition of roads and footpaths.

(3 generations of women weaving in Central Pentecost)

BASELINE: Current potential threats and vulnerabilities – Pentecost Island from Community Assessment

	Observation / threat	Causes	Risks – without intervention	Potential impacts	Level of threat	Potential adaption activities
Community governance and planning related issues	Climate related disaster impacting on communities	- Weather related, i.e. cyclones, storms and unseasonal rain - Lack of disaster management plan at community and area council level	- Communities will continue to be heavily impacted by natural disasters made worse by climate change	- Severe impacts on livelihoods at household, community and Area Council level	**HIGH**	- Development of Community Climate Change Adaptation Plan - Establishment of Community Disaster Committee - Development and implementation of Community DRR - Link into National Early Warning System - Link to Decentralisation Act Amendment 2014
	Lack of integrated community level planning process to address village development planning and associated systems	- Processes not yet established	- Lack of cohesive planning processes impacting on ability to respond to internal and external challenges, e.g. enhancing resilience to climate change	- Severe impacts on livelihoods at household, community and Area Council level	**HIGH**	- Development of Community Climate Change Adaptation Plan - Establishment of Community Disaster Committee - Development and implementation of Community DRR - Link into National Early Warning System - Link to Decentralisation Act Amendment 2014
Issue: Marine ecosystem/ resource degradation	Coral Reef degradation due to Crown of Thorns Seastars (COTs)	- Degraded ecosystems - Removal of COTS predators - Increasing nutrients (?)	- Increasing threat from COTs due to increased larval dispersion	- Continued degradation of coastal ecosystems -	**LOW**	- Active removal of COTs along western coast- problem not reported along east coast of CP2
	Mangrove cutting and removal	- Mangroves used as source of fuel and timber - Lack of appropriate coastal management regimes	- Reduction in ability to provide ecosystem services (i.e. coastal protection, nursery grounds)	- Severe events will inundate villages / coastal communities -	**VERY LOW**	- Extremely low areas of mangroves in site- Bwatnapni only

	Observation / threat	Causes	Risks – without intervention	Potential impacts	Level of threat	Potential adaption activities
			- Increased coastal erosion			
	Sediment and nutrient being deposited on near shore coral reefs	- Poor upland agricultural activities - Logging - Erosion - Landslides - No forestry initiatives	- Continued deposition on reefs, seagrass and mangroves systems - Smothering of coral reefs near creeks and river mouths -	- Diminishing quality of coral reef, seagrass and mangroves to provide ecosystem services - Reduction in ecosystem services including fish and other livelihood support	**HIGH – VERY HIGH**	- Upland erosion control measures - Introduction of forestry nurseries
	Coastal fisheries decreasing	- Overfishing - Tabu areas not effective management systems - Lack of planning of marine resource management - Lack of enforcement of laws -Commercial fishermen stealing resources	- Continued overfishing and loss of breeding stock and biodiversity	- Reduced ability of coast to meet food security needs of local communities with increasing population	**MEDIUM**	- Development and implementation of Integrated - Coastal Zone Management Plan
Coastal issues	Coastal inundation from King Tides and related events	- Increased construction in coastal margins combined with erosion and	- High with increasing certainty	- Water table will become increasingly salinized - Coastal infrastructure will be flooded and degraded	**MEDIUM**	- Ensuring vegetation of shoreline - Securing alternative water supplies - CC Adaption Planning ensuring re-location of infrastructure assets away from coast
	Areas of coastline eroding end endangering coastal infrastructure	- Loss of coastal vegetation - Sand mining from beaches - Inappropriate planning of infrastructure - Lack of maintenance of infrastructure	- Increasing danger – particularly in extreme weather events		**MEDIUM**	- Ensuring vegetation of shoreline - Securing alternative water supplies - CC Adaption Planning ensuring re-location of infrastructure assets away from coast - Consider options for communities in case of

	Observation / threat	Causes	Risks – without intervention	Potential impacts	Level of threat	Potential adaption activities
						community decision to relocate
	Changes in seasonal weather eroding the coast related to el-nino and la-nina	- Coastal erosion is occurring in unpredictable manner due to season (long-term weather patterns)	- Continued	- Change in wave regimes may potentially impact on the coastal process enhancing erosion in some areas	**MEDIUM**	- Ensuring vegetation of shoreline - CC Adaption Planning ensuring re-location of infrastructure assets away from coast -
Land-based issues		-	-			
- **Water quality and supply**	Water sources for communities polluted	- Livestock in the water sources (pigs, etc.) - Sediment entering water sources from poor upland management	- Continue and become worse under cc scenarios	- Community health impacts, particularly on women, elderly and children	**MEDIUM**	- Development and implementation of community agreed plan on upland areas – including water catchments and source - Provision of WASH Training
	Lack of potable water (seasonal)	- Not enough capacity to catch rainwater – East & Upland - Limited maintenance to existing gravity supply systems - Increasing variability in rainfall - Increasing populations	- Continued water shortages – seasonal - Schools are running out of potable water	- Impacts on human health - Battles between communities over access to water - Continued provision of emergency water supplies	**MEDIUM – HIGH**	- Installation of additional water storage at schools and in selected villages
	Damage to the water distribution system post natural disaster	- Physical damage to system - No emergency back-up system	- Continued in ability to manage post-disaster - Risk to human health	Not enough water, an increase in health problems following a major storm	**HIGH**	- Development of DRR Plan and Area Council and Village Level - Climate proof current water systems
- **Upland management - Erosion and**	Deforestation	- Need for timber and related income - Lack of alternative timber	- Cutting continues without replanting - Erosion gets worse	- Forests are currently experiencing deforestation in the area. Intense storms	**HIGH**	- Development and implementation of upland management plan

	Observation / threat	Causes	Risks – without intervention	Potential impacts	Level of threat	Potential adaption activities
soil management				will further damage forests, resulting in soil instability and increased erosion		- Nursery to support production of tree saplings for reforestation programs
	ncreasing upland erosion issues	- Poor upland management - Agricultural activities - Logging - Erosion of riverbank - Landslides	- Continued erosion - Loss of top-soil - Impacts on marine and coastal ecosystems	- Loss of top soil - Continued impacts on coastal and marine environment - Need to	**HIGH**	- Development and implementation of upland management plan - Nursery to support production of tree saplings for reforestation programs - Agricultural extension
	Farming Practice caused erosion	- Lack of understanding of alternative practices - Lack of access to different crop varieties	- Continued erosion - Loss of top-soil Impacts on marine and coastal ecosystems	Several farming practices, such as slash and burn farming, causes less soil stability and an increase in sediment generation and top soil loss	**HIGH**	Education outreach and distribution of erosion preventing species for erosion control
Agriculture and Horticulture	Changes/difficulties in growing seasons and crop management	- Change in season timing / fruiting - Possible link to climate change reported	- Impact on crop yield - Impact on seasonality	- Potential impact on food security through timing of food production at household level	**MEDIUM**	- Education outreach Extension on agricultural species - Identification of climate change resilient crops
	Diseases and pests in agricultural produce	Uncertain, but maybe related to: - Changes in agricultural practices - Introduced diseases - Lack of alternative agricultural crop seedlings	- The problem will continue to get worse with a reported loss of crops of up to 40%	- High impact on food security through food wastage	**LOW**	- Education outreach and distribution of climate change resilient crops
	Droughts	- Part of a natural cycle - Increasingly may be linked to climate change	- Occasional crop failure - Food shortages - Starvation	- Not enough water, an increase in health problems	**LOW**	- Increase system capacity
	Horticulture erosion and sanitation issues	Existing issues that will enhance the impacts of climate change		Pigs, cows, goats and chickens are left to graze in various locations. Often their grazing	**MEDIUM**	Education outreach and distribution of materials for animal management (fencing)

	Observation / threat	Causes	Risks – without intervention	Potential impacts	Level of threat	Potential adaption activities
				locations cause problems of soil erosion and sanitary conditions.		
Public conveyance infrastructure	Transport – vehicle and walking tracks become useable and dangerous during wet season	- Rain and weather affecting roads, water tracks and river crossings - Weathering of road, and related erosion - Lack of maintenance	- Roads and infrastructure will continue to degrade without intervention - Road and related infrastructure will be unusable	Lack of access to markets, education,, health and other government facilities Human injury and deaths	**HIGH**	- Invest in climate proofing roads and related infrastructure - Regular maintenance program - Involvement of island based contractor in maintenance
	Increased Erosion of road sidings	Increased rainfall will increase erosion in steep hillsides	- Roads and infrastructure will continue to deteriorate without intervention - Road and related infrastructure will be unusable	Lack of access to markets, education,, health and other government facilities Human injury and deaths	**HIGH**	- Revegetation of road sidings
	Damaged river crossings / concrete pavement	Increased rainfall and extreme events will enhance erosion and breakdown of infrastructure	- Roads and infrastructure will continue to deteriorate without intervention - Road and related infrastructure will be unusable	Lack of access to markets, education,, health and other government facilities Human injury and deaths	**HIGH**	- Rehabilitation of river crossings, bridges to support ongoing VTSSP initiative
	River crossings present risk to pedestrian traffic (Secondary paths)	Increased rainfall and extreme events made river crossing hazardous to pedestrian traffic	- Disruption to lives of rural communities - Lack of access to education, etc. - Death of children	Lack of access to markets, education,, health and other government facilities Human injury and deaths	**VERY HIGH**	- Build / rehabilitate public walking tracks /
	Ensure road are constructed to specifications in line with climate projections	Increased rainfall and extreme events damage public conveyance infrastructure	- Roads and infrastructure will continue to deteriorate without intervention - Road and related infrastructure will be unusable		**HIGH**	- Ensure appropriate design to ensure “climate proofing”

4 Proposed interventions

"Situations change, project supporters move on, projects get delayed in starting. Based on experience, it is recommended that the design of this project is reviewed by the NAB prior to any implementation at the proposed site(s)". The project needs to be presented and discussed with local stakeholders during the establishment of the Pilot Project Committee in the Inception Phase of V-CAP. Expectations, confusions, further information and explanation can then be provided at project start – and the design of the project adjusted to fit new realities at the site in order to ensure project interventions are clear and understood by all – and stakeholder support is provided throughout implementation.

Quote: Solomon Islands LDCF Proposal

The above table provides an insight into the various adaptation options identified through the community consultations

The following sections provide a framework for the V-CAP response to the community profiling, baseline survey and rapid vulnerability assessment and field visits.

The V-CAP response to these issues will be delivered through:

- Component 1: Integrated community approaches to climate change adaptation
  - 1.1. Integrated CC-Adaptation plans mainstreamed in the coastal zone
  - 1.2 Improved climate resilience of coastal areas through integrated approaches
    - 1.2.1: Increased resilience of coastal ecosystem to climate change, Pentecost Island, Penama Province.
    - 1.2.2: Enhanced resilience of terrestrial areas
    - 1.2.3: Climate proofing of infrastructure.

The proposed activities, baselines, interventions are targets are outlined in the 4 tables below.

The proposed activities outlined below are based on an intensive field visit during the PPG mission and follow-up dialogue at the Area Council, Provincial and National Levels. However, a comprehensive Inception phase followed by a targeted information gathering and planning period will ensure the development of a comprehensive program that meets the needs of all stakeholders.

Component 1.1.1: Pentecost - Area & Village Climate Change Adaptation Planning – Strengthening Village and Community Approaches, Penama Province, Pentecost Island:

1.	**Thematic area**	*Integrated CC-A plans mainstreamed in the coastal zone* *Cross-cutting* • *Gender / special needs groups*
2.	**Site description**	All villages in targeted selected sites in Pentecost as described in site profile. The focus will be: • 1 Local Area Council (CP2) • 9 Communities within the target site
3.	**Description**	Local governance institutions and structures are strengthened to allow for Climate Change Adaptation Strategy to be created and effectively delivered on village, Area Council and Community levels.
4.	**Rationale – addressing what climate change issue**	**Problem Identification** • There are no CC vulnerability assessments / CC Adaption Plans at the village and district levels • Lack of formal institutional structure to address CC adaption planning processes and implement adaptation measures • Monitoring and evaluation capacity of provincial government is limited. Report writing capacity is limited.
5.	**Impact**	• 9 coastal communities more resilient to CC through implementation of integrated CC-A plans in the coastal zone
6.	**Base line**	• 0 of 1 Area Council 5 Year Development Plans created • 0 of 9 Village Climate Change Adaptation Plans made for target communities • 0 of 9 Community Disaster Committees created in target communities • 0 of 2 coast lines in target areas have CCA / DRR centers which will also serve as Area Council Office for the PIC to utilize
7.	**Activity Output**	• 9 Community Climate Change Adaptation Plans • 1 Area Councils have created 5 year development plans incorporating CC Adaptation & coastal zone management • Community Disaster and Preparedness and Response Plans finalized
8.	**Proposed Specific Activities**	**Planning Phase** Local governance institutions and structures are strengthened to allow for Climate Change Adaptation plans to be created and effectively delivered on village, Area Council and District levels. Village level ***Community Disaster Committees*** to be created in 9 target communities and will be comprised of at least a chiefly representative,

		woman's representative(s) so that gender components are considered, village water committee representative, village health committee representative along with representation from other development groups committees in the village so that the CDC may be multi-purpose and can effectively steer the implementation of the various technical components of V-CAP on the village level as well as those of other future projects. These 9 "communities" may be defined on the Ward level in some instances, but follow the proposed list of sites noted on site profile. • Undertake vulnerability assessments at the community level and develop coastal CC Adaptation Plans including coastal zone management plans, • Involve representatives from VMGD / PMU in undertaking these assessments of disaster and CCA risks, providing any necessary technical input to these CDC's while they create their plans • 9 CDC's from target communities create development plans considering CCA, DRR and ICZM. Area Council level ***Pentecost Project Implementation Committee (PIC)*** comprised of a representative, most likely the Chairman, from each of the 9 target communities' Community Disaster Committees (CDC's) also known as "Community Development Committees", 1 Area Secretary from the project site along with locally based (Pentecost Island) government department field officers such as the Agriculture Field Officer, Forestry Officer, Water Supply officer, etc. To meet regularly on a quarterly basis. • Identify capacity needs of CP2 Area Council and 9 Community Disaster Committees and develop an institutional development action plan (planning, writing and evaluation) considering inputs from the individual CCA plans created by the 9 Community Disaster Committees • By end of planning phase develop comprehensive project work plan with agreed targets for remainder of project. • Development of a Area Council CC Adaption Plan for CP2 **Implementation phase** • Regular meeting of ***Pentecost Project Implementation Committee*** to evaluate the progress of the project implementation against agreed targets • Regular meetings of CP2 (quarterly) to evaluate progress of Area Council Development Plans during implementation phase • Implementation of the institutional development plan for project area on Central Pentecost • Implementation of the CDC Plans at the village level • Village small grant scheme providing support to villages to implement the CC Adaptation and CDC Plans • Maintain an oversight of implementation of CC Adaption Plans and DRM Plans in conjunction with other project components (link to 1.2.1, 1.2.2, 1.2.3) • Monitoring and evaluation of implementation of plans against an agreed schedule
9.	**Component Link**	Links and complementarities with other V-CAP Components:

		• This component will monitor and evaluate work completed in components 1.2.1, 1.2.2 & 1.2.3
10.	**Other Projects**	Links with other activities/projects/donors: • VTSSP linkage will be very strong at this site. Implementation of some VTSSP works such as road improvements along primary roads in CP1 & CP2 at V-CAP project site to take place. VCAP will seek to build upon the VTSSP initiative and compliment it with a series of pedestrian crossings, and improvements of select secondary roads and footpaths connecting communities to the primary road improvements made by VTSSP. Monitoring & evaluation of access / infrastructure needs can be conducted jointly by VCAP and VTSSP along the western coast of CP2 as well as during PIC & Area Council meetings. • World Vision as established committees that may serve as CDC's in CP2 and has created some planning already, especially in regards to WASH. VCAP can scale out WASH initiatives and support existing CDC's.
11.	**mplementation**	Implementing Agency / reporting requirements and coordination arrangements **Coordination and Dissemination** • This component to be coordinated with the assistance of the an INGO, World Vision along with the Ministry of Internal Affairs through the Department of Local Authorities with delegated responsibilities given to the Penama Provincial Government Council & the Natural Disaster Management Office. Affiliating partners will include the Ministry of Climate Change through the Vanuatu Meteorology & Geo-Hazards Departments
12.	**ndicators**	• Area Council Level- 1 Area Council Development Plans created for CP2 containing CCA and DRR components (World Vision, DLA, VMGD & Penama Province) • 9 Village Climate Change Adaptation Plans created for 5 target communities by CDC's (World Vision, VMGD, NDMO & Penama Province) • 9 Community Disaster Committees created in the 5 target communities which are responsible for the implementation, monitoring & evaluation of Village Climate Change Adaptation Plans (MoIA – DLA / NDMO) to collect data • 2 CCA / DRR centres which will also serve as offices either constructed or improved within CP2 (1 east coast & 1 west coast)
13.	**Benefits**	Supporting the local governance institutions to plan for CC Adaptation at Area Council and community levels will considerably mitigate the possible adverse effects sustained through the effects of Climate Change. It will also allow the target communities and local government to take ownership of the VCAP project, increasing their capacity to manage and implement future development projects as well as to effectively monitor and evaluate the project to ensure maximum efficiency.

14.	**Gender**	Mandate from the National Government concerning the formation of Area Councils to include representative members for Women, Youth and People with Disabilities. These Area Council representatives will be part of the CCA planning process at the Area Council level and the monitoring and evaluation of CDC plans to ensure that they effectively cater to the needs of Women, Youth and the Disabled.
15.	**Environment**	*Is there a need for IEE, EIA? Actions proposed / screening needed?* • No
16.	**Risks and Assumptions**	**Risks** • Risks involve the possibility that internal community disputes involving chiefly titles or land ownership may pose challenges or have adverse effects on the formation or functioning of the Pentecost Project Implementation Committee or the village level CDC's. **Assumptions** • Community representatives will be willing to participate in the Pentecost Project Implementation Committee, CDC's & Area Council.

Component 1.2.1: Pentecost - Increased resilience of coastal ecosystem to climate change, Pentecost Island, Penama Province.

	Thematic area	• Project component 1.2.1 • Cross-cutting - Gender / special needs groups and Youth
2.	**Site description**	Central Pentecost as described in site profile. The marine areas to include near shore marine systems including coral reef, seagrass beds and associated systems.
3.	**Description**	The focus of these activities will be to build village, community and area level Integrated Coastal Zone Management Adaptation Plans to enhance resilience of coastal ecosystems to climate change. A particular focus will be ecosystem based management, including fisheries management practices, strengthening evidence-based management of Tabu Areas, supporting Community –Conservation Area establishment and undertaking specific activities undertaken to reduce pressure on marine ecosystems (e.g. Crown of Thorn Sea-star (COTs) removal and review of current fishing practices). This will be achieved through a comprehensive baseline assessment of the marine and coastal environment, dialogues and consultations with key stakeholders including traditional owners, users, and representatives from government agencies. A comprehensive International Coastal Zone Management Adaption Plan (ICZMAP) will be developed with clear goals towards it monitoring, implementation, and evaluation. The ICZMAP will then be implements. It is anticipated that elements of this plan may include: • Education and outreach to fishers and coastal users • Encouraging the participation of youth in the removal of COTs • Development of alternative income activities • Installation of Fish Aggregating Devices (FADs) to enhance offshore fishing
4.	**Rationale – addressing what climate change issue**	**Problem Identification** Evidence shows that a healthy marine ecosystem will be more resilient to climate change. Yet the marine ecosystem on the east coast of Pentecost Island is degraded due to: • Changes in wet season precipitation will result in an increase in the generation of sediment. Sediment is ultimately transported to the coast, where it increases water turbidity and smothers coral reefs and seagrasses degrading marine ecosystem health; • Ecosystem degradation and over exploitation has resulted in a reduction in fish catch and fish size, thus decreasing ecosystem resilience to climate change; • Ecosystem health has also been degraded (this is due to factors such as overfishing, crown of thrones starfish and an rapid growth of white encrusting species overgrowing and smothering coral, thus reducing the resilience to climate change – which will exasperated with additional stressors from climate change. • Potential additional changes including ocean acidification and increasing temperature stress will also enhance the pressures on the health of the marine and coastal ecosystem.

		Along the west coast of Pentecost there is degradation of the marine resources due to: • Theft of marine resources by commercial fishing vessels • Ecosystem health has also been degraded (this is due to factors such as overfishing, crown of thrones starfish and an rapid growth of white encrusting species overgrowing and smothering coral, thus reducing the resilience to climate
5.	**Impact of proposed activity**	**Outcome:** Increased resilience to climate change through healthier marine ecosystems supported by an increase in the area of Tabu Areas and CCAs proposed and supported by local communities with active management activities to enhance ecosystem resilience.
6.	**Base line**	**Identify baseline –also identify additional baseline information needs** • There are 8 coastal tabu areas within the project site; • Coastal water is degraded by sediment leading to enhanced turbidity; • Reef health is impeded by moderate sediment deposits at some locations; • The reefs are being degraded by high numbers Crown of Thorn seastars; • Fish catch is decreasing along western coast of Pentecost • Active consumption of protected species- turtles • Waste disposal at or near coastal reefs affecting water quality

7.	**Proposed specific activities**	**Break down of specific activities**
		
		• ***Planning Phase:*** **Issue identification, intervention identification and planning**
		  • Field staff will be appointed to support and facilitate community dialogues, baseline development, outreach training session is held to engage the community in the marine monitoring project;
		  • Baseline surveys will be completed by Department of Fisheries and Technical Specialists;
		  • Development of Integrated Coastal Zone Management Adaption Plans (ICZMAP);
		  • Identification of suitable locations for expansion of the Tabu system and the creation of additional LMMAs and CCAs.
		• ***Implementation Phase:*** **Implementation of specific interventions**
		  • ICZMAP will be implemented
		  • LMMAs, Tabu areas and CCAs will be refined and management plans will be developed and implemented;
		  • Field staff will establish a program of marine ecosystem education for the fishers, men and women;
		  • Specific programs and activities will engage the youth in activities such as removal of Crown of Thorns Seastars;
		  • The Youth Club will seek to create innovative programs to engage and educate the youth;
		  • Field staff will work with and turtle monitors to support community initiatives to manage marine resources.
		• ***On-going*****: Monitoring and Evaluation**
		  • Develop, implement and evaluate annual workplans together with local communities;
		  • Undertake community monitoring of Tabu areas;
		  • Turtle Monitors will partake in the Monitoring Network activities, including One Small Bag's annual conference, and the sub regional Monitoring activities;

		• Trainings/educational programs for the fishers and youth will be held at least twice a year as per the annual plan; • A specific focus should be monitoring marine ecosystems following natural disasters to assess the resilience;
8.	**Activity output**	**Proposed specific outputs of activities** • Trainings for fishermen, on the value and importance of establishing marine and coastal management. Proposed training topics may include: fisheries and conservation areas, marine conservation valuation, endangered/protected species management and invasive species detection; • Identification of suitable Turtle Monitors for the site; • Youth club and women's group trainings on marine ecosystems, marine management practices, endangered/protected species, and invasive identification; • The establishment of at least two more marine CCAs. • The refinement of the boundaries of at least five more marine Tabu areas to incorporate resilience; • Increase in number and size of fish populations. • Assistance linking Pentecost island communities into the national LMMA Network.
9.	**Indicators**	**Baseline and performance indicators to be used to monitor that activity and/or output – indicating source of data and entity responsible for collection and monitoring of that data.** • Baseline biodiversity, habitat and fisheries surveys based on adapted Reef check and other suitable methodologies; • Development of 9 Integrated Coastal Zone Adaptation Plans approved by the national government; • Increase the presence of the CCAs, at least by 1 CCA • Enhanced Tabu Area Management Plans for 5 existing tabu areas; • Link at least two of the LMMAs to the national Marine Protected Area (MPA network) • An increase in fish catch and fish size as evidenced by repeated detailed base-line survey; • A reduction in number of Crown of Thorn Seastars;
10.	**Other Projects**	**Links with other activities/projects/donors (current/potential**) • Links to Turtle Monitoring Network • Link to MACBIO – GIZ/ IUCN
11.	**Implementation**	**Coordination and Dissemination** This component of the project will be implemented by a Field Officer appointed by the Project Implementation Unit (PIU) together with the District Officer (DO) and act as a direct counterpart to the District level administration of Pentecost Island.

		International and national specialists on marine ecosystems control will be appointed to lead and assist in the development of the planned interventions. A period of two weeks in Pentecost will be required to undertake baseline surveys and ICZMA Plans with local stakeholders: • In addition, support will be provided to the District Officers of the Department of Fisheries to coordinate delivery of these activities with their agency work plans. • In addition, links will be established with relevant nongovernmental organizations, such as Wan Smol Bag, to engage them in the education process. A Field Officer (50%) is will be appointed to coordinate the delivery of this component. Their role will include: • Initial planning and consultation with local communities; • Facilitating initial assessments with expert consultant and communities and development of plan; • Supporting community training for fishers; • Work with District /Provincial Fisheries Office for planning and deliver training; • Develop and implement specific activities for women and Youth.
12.	**Outline Terms of Reference**	**TOR to be developed for national specialists on marine science.** One Field Officer will be employed at a half time basis for at least 2 years. The duties of this person will include: • Planning community training • Facilitation for an additional Turtle Network Monitor selection; • Support a Climate Change Youth Club and organize trainings and programs on marine ecosystems; • Organize marine education and training for the area women; • Link the LMMAs and the Tabu areas into the LMMA network; • Link the LMMAs to the national conservation system through the Department of Fisheries and One Small Bag.
13.	**Benefits**	**Expected benefits** Enhanced marine ecosystem resilience to CC on Pentecost Island. This will have additional co-benefits including: • Developing more marine conservation areas and Tabu areas, as well as larger marine conservation areas and Tabu areas to: o Increase biodiversity and ecosystems resilience o Increase fish populations through protecting breeding nursery, and feeding grounds; o Promoting spill over into the non-protected areas, improving the abundance of fish available for harvest; • This project also provides opportunities for marine monitoring to assess and identify issues, educational outreach and invasive species mitigation; • The project also increases the focus for the turtle and dugong conservation and management.
14.	**Beneficiaries**	**Description of beneficiaries** Through the village consultations a large portion of villages were interested in improving the efficiency of local fisheries.
15.	**Gender**	**Links to Gender Equity and Social Inclusion Strategy**

		• This project links to the GESI Strategy by engaging women and youth in customized training sessions. Through hands-on educational programs women will learn about marine resource education. • This project links to the GESI Strategy by engaging youth through training sessions and programs at the "Waterfall" community Rural Training Centre.
16.	**Environment**	*Is there a need for IEE, EIA? Actions proposed / screening needed?* • Not required
17.	**Risks and Assumptions**	**Risks** • The community does not engage in the trainings and does not adhere to the governance of the LMMAs and Tabu areas. • Effects of climate change could kill the reef or severely impede the reef. • No desire from communities for LMMA or Tabu area expansion. • The communities do not engage in the trainings or outreach. Or, the communities choose not to apply material learned from the trainings **Assumptions** • The success of previous LMMAs and Tabu areas supports the idea that the communities will adhere to the rules and management procedures of additional LMMAs and Tabu areas. • From the consultations administered during our project area assessment we assume that the communities being targeted by this project will engage and apply the training being offered and will support the development of additional LMMAs and Tabu areas. • Success of previous training projects around Vanuatu and community interests suggests that the trainings will be influential.
18.	**Prepared by**	Virginia Smith & Matthew Hardwick

Component 1.2.2: Pentecost Island - Enhanced resilience of terrestrial areas managed to minimize erosion, provide clean water resources to both communities and ecosystems enhancing livelihoods, Pentecost Island, Penama Province.

1	**Thematic area**	Cross-cutting - Gender / special needs groups and youth
2.	**Site description**	Central Pentecost site as described in site profile. The project area focuses on all terrestrial areas bordering on the coastal zone from ridge to both the east west coasts
3.	**Description**	**Technical description of the activity/investment** The focus of the these activities will be to build village level, community level and Area Council level approaches to enhancing resilience of terrestrial areas managed to minimize erosion, provide clean water resources to both communities and ecosystems, support sustainable agriculture through a planning integrated planning process. These activities will operate at a number of different levels. These include: • Village level • Community level (communities may contain a number of villages or wards) • Area Council Level – the two Area Councils are included. This component will address the key challenges identified in the PPG field consultations. in particular those issues considered as sensitive and high risk based on the potential impact of climate change and the urgent priority to build resilience to these projected impacts. n particular it will focus on of the following key areas: Minimizing and upland soil erosion and maximizing coastal protection: • Active planting / revegetation of catchments and coasts; • Establishing and operating nurseries for breeding suitable species; • Development of coastal and upland vegetation programs • Focus planting in sensitive areas, i.e. steep slopes, roads, rivers, coasts and water catchments Supporting provision of secure clean water through: • Enhancing dry season water storage through tank provision • Soft measures including catchment management, and erosion control • Hard measures to reduce pollution in catchment through fencing, etc • Securing the water source through appropriate infrastructure • Providing emergency and disaster water supply backup Enhancing catchment management: • Enhance planned approach to upland and coastal management • Provide support for plant species to reduce erosion • Provide alternative timber species and sources • Mange cattle and livestock grazing

		• Identify opportunities for establishment of community conservation and protected areas. Enhancing climate resilient agriculture • Agricultural extensions services • Climate resilient species, heat, drought, disease • Provide climate change resilient species • Better access to markets An integrated approach to addressing these issues will be achieved through the development of Integrated Upland and Catchment Management Plan (IUCMP). The plan will incorporate a land management plan. A particular element of this component will support agricultural and forestry education outreach to farmers, women and youth though a facility established in the Rural training center located at the "Waterfall" community along with the 2 Catholic missions, located at Melsisi and Tsinbwege.
4.	**Rationale – addressing what climate change issue**	**Problem Identification:** **Changed rainfall patterns** • Increases in precipitation due to climate change, particularly during the rainy seasons, will result in an increase erosion on the hill slopes, resulting in the generation of more sediment. • The increase in the intensity of the wet and dry seasons as a result of climate change may increase the risk of major bedload transport events, such as landslides. • Current agricultural practices, such as slash and burn farming and allowing cattle grazing on steep slopes, create unstable soil conditions. • An increase in upland erosion results in a loss of valuable top soil. • Sediment is ultimately transported to the coast, where it increases coastal water turbidity and deposits sediment on the coral reefs. **Higher temperatures** • Wet and dry season dynamics due to climate change will require more climate resilient crops to insure food security. • Crop diseases are predicted to be worse
5.	**Impact of proposed activity**	**Outcome:** The overall outcome of this component in 1 Area Council on Pentecost Island will have enhanced resilience of terrestrial upland and coastal areas to minimize erosion, provide clean water resources, and provide sustainable agriculture to both communities and ecosystems.
6.	**Base line**	**Identify baseline – but also identify additional baseline information needs if required** Evidence shows that a healthy upland and costal terrestrial ecosystem will be more resilient to climate change. Yet the terrestrial ecosystem on Pentecost Island is degraded due to:

		• Erosion in upland and coastal areas generating substantial amounts of sediment that is washed into coastal waters; • Ecosystem degradation and perhaps climate change is severely impacting on agricultural production with up to 30% of crops lost; • Poor water quality is causing disease risks in some villages; • Ecosystem health has also been degraded due to land encroachment, agricultural expansion, livestock use, etc. thus reducing the resilience to climate change – which will exacerbated with additional stressors from climate change. • Sediment covering large areas of coral reef.

7.	**Proposed specific activities**	**Break down of specific activities**
		
		• ***Baseline:*** Develop baselines of issues and threats of terrestrial upland and costal ecosystems with a particular focus on impacts of climate change on agriculture, water supply, forestry and protected area management and related resources at all six V-CAP sites;
		  • Identification of highly erosive sites and factors associated with erosion causation
		  • Field Coordinator appointed to coordinate baseline, facilitate community planning and support implementation
		
		• ***Planning***: In conjunction with project partners identify suitable approaches to enhance catchment and upland management
		  • Develop Integrated Upland and Catchment Management Plan (IUCMP) through a participatory approach integrating forestry, agriculture, and water resource and traditional management regimes at the village, community and areas council level identifying time-bound actions for long-term management to include tabu and Community Conservation Areas.
		  • Survey of area to identify focus areas for erosion conservation.
		  • Develop plan for the nursery and link to Catholic missions & rural training center in “Waterfall” community
		
		• ***Implementation*** of the Integrated Upland and Catchment Management Plan (IUCMP) including nurseries, agricultural training and extension, provision of climate-resilient crops, though development of time bound annual work plans
		  • As part of the implementation of IUCMP develop specific cooperative programs with forestry, agriculture and water resources agencies to deliver an agreed series of comprehensive work plans with time bound outputs to be delivered in conjunction with Field Officers, Area Council and appropriate provincial officials.
		  • Establishment of the Training Gardens / Nurseries (Waterfall community, Tsinbwege mission & Melsisi mission): The Training Garden will grow grasses for slope stabilization, saplings for re-forestation and climate change resistant crops to be disseminated to the communities for their individual farms.
		  • Farmer, women, and youth (via the youth club) outreach training and education. Trainings will include topics, such as:
		  ▪ Sustainable land management in the uplands
		  ▪ Sustainable land management in the lowlands
		  ▪ Climate change resistant crops and farming practices
		  • Develop and disseminate erosion control materials; such as, stabilizing grasses and tree saplings.
		
		  • ***On-going*- Monitoring and evaluation:**
		  • Monitoring, evaluation and work planning will be based on the IUCMP prepared in Year one, and annual participatory reviews will identify progress and lessons learnt to be incorporated into the workplan of the following year.

		• Survey the forest villages to assess the amount of forested are (initial period and month 40). • Survey the villages to see if there are shifts in farming practices (annual review / scorecard). • Assessments of the size of the sediment deposits at the reef and coastal water turbidity (Marine Network Monitors). • Monitor implementation of the plan, and will seek to expand the areas. • Monitor the occurrences of landslides.
	Activity output	**Proposed specific outputs of activities :** • Trainings for the community farmers on better farming practices to reduce erosion and conserve top soil. • Distribution of resources for the community farmers to facilitate top soil conservation practices and establishment of a Training Garden to house saplings, stabilizing grasses and climate change resistant crops. • Youth club trainings on better farming practices to conserve top soil. • Women's trainings on better farming practices to conserve top soil. • A reduction in the farming practices resulting in upland farming practices to reduce sediment transport. • Halting the building of sediment deposits at the reefs and the increase water turbidity.
12.	**ndicators**	**Baseline and performance indicators to be used to monitor that activity and/or output – indicating source of data and entity responsible for collection and monitoring of that data.** • Baseline biodiversity, habitat and agriculture and forestry surveys based on adapted suitable methodologies; • Development of *Integrated Upland and Catchment Management Plan (IUCMP)* • Annual workplans for implementation of IUCMP • Establishment of one terrestrial CCAs • Enhanced management plan for 1 terrestrial tabu areas • A reduction in erosion and runoff as indicated by decrease in coastal water turbidity • Number of farmers adopting measures to actively reducing sediment run-off • Number of erosion areas along road-sides with reduced erosive potential • Area of upland planted with slope stabilizing species to reduce soil runoff • Amount of forested land in the upland area. • Number of landslides occurring in areas of highlands
13.	**Other Projects**	**Links with other activities/projects/donors (current/potential**)
14.	**mplementation**	This component of the project will be implemented by a Field Officer appointed by the Project Implementation Committee (PIC) together with the Penama Provincial Government Council and will act as a direct counterpart to the provincial level administration by the Area Secretary in CP2. The FO will report to the PIC will also establish links with Forestry and Agriculture Officers for Penama Province and at the National level. In addition, the PO will support the Rural Training Centre (RTC) located at the "Waterfall" community and possible Agro-Forestry nurseries at the Catholic missions at Tsinbwege & Melsisi.

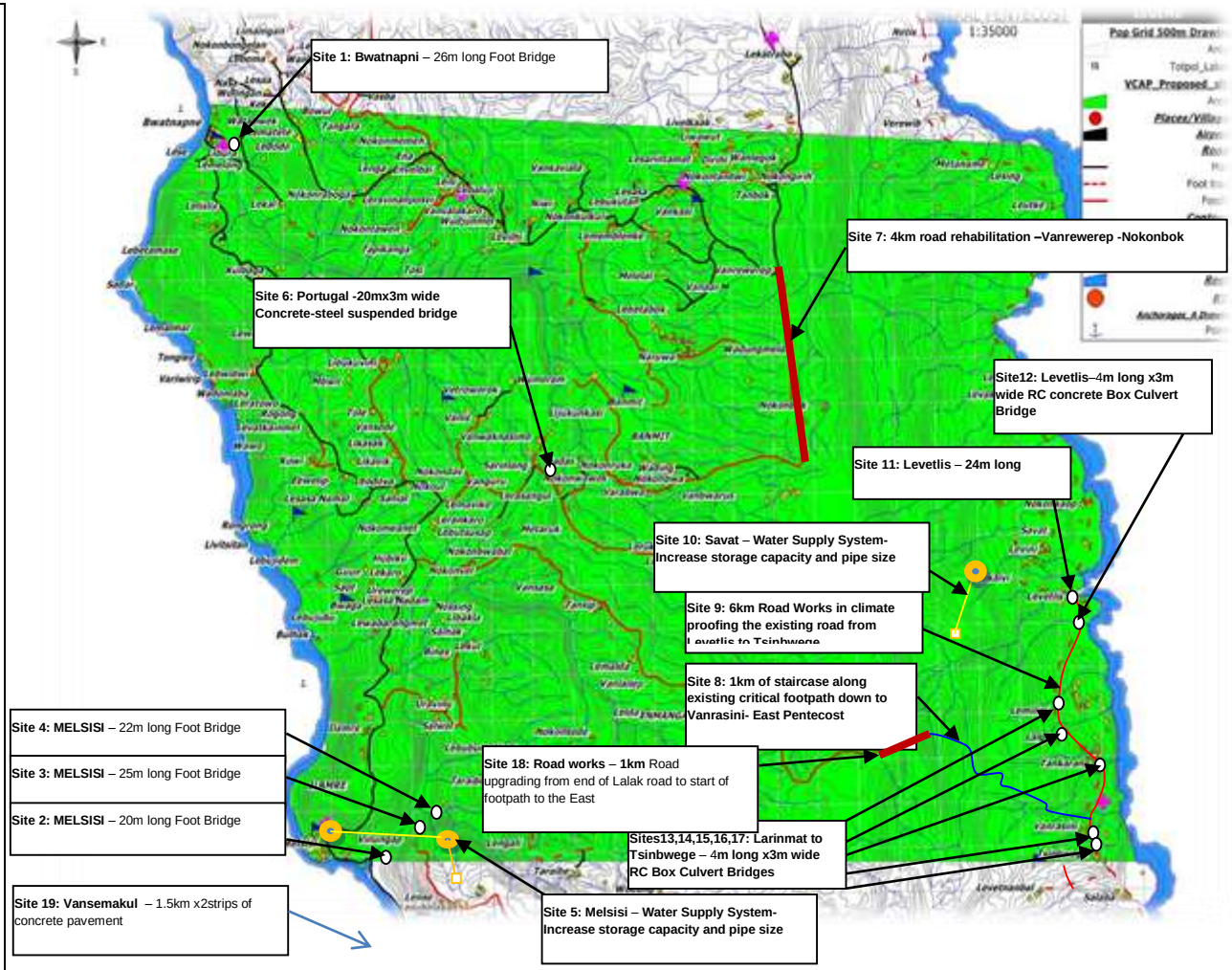
		International and national specialists on forestry and erosion control will be appointed to lead and assist in the development of the planned interventions. A period of two weeks in Pentecost will be required to undertake these surveys and develop plans in consultation with local communities. Additionally, they will develop a plan for the nursery and training garden. • In addition, support will be provided to the District Officers of the Departments of Agriculture and Forestry to coordinate delivery of these activities with their agency work plans. • In addition, links will be established with relevant institutions including Santo Agricultural Research Centre and Farmers Support Association. A Field Officer (50%) will coordinate the delivery of this component. Their role will include: • Initial planning and consultation with local communities • Facilitating initial assessments with expert consultant and communities and development of plan • Supporting community training for farmers • Work with Provincial Forestry and Agriculture Officers to establish nursery and training gardens (climate resilient crops and erosion prevention plants) • Develop and implement specific activities for women and Youth Club to support erosion reduction initiatives • Support establishment of training facility
15.	**Benefits**	**Expected benefits** • The project will reduce the amount of erosion from the upland slopes of the site resulting in the following benefits: o Increase topsoil conservation o A healthier coastal marine ecosystems ▪ Less sediment deposited at the reef ▪ Less turbid coastal waters • The project education and outreach will allow farmers the technical and physical resources to improve their farming practices and promote climate change resilient farming practices. • The project will enhance food security through insuring improved farming practices and promoting climate resilient crops.
16.	**Beneficiaries**	**Description of beneficiaries** All community members are dependent on the local farms for livelihoods representing the full population of the project area
17.	**Gender**	**Links to Gender Equity and Social Inclusion Strategy** • This project links to the GESI Strategy by engaging women through training sessions. Through the training courses women will learn new farming techniques to maintain sustainable farms. • This project links to the Gender Action Plan by engaging youth through training sessions and a training garden at the "Waterfall" community RTC. Through the training activities the youth will learn new farming techniques to maintain their farms for a more sustainable future.
18.	**Environment**	*Is there a need for IEE, EIA? Actions proposed / screening needed?*

		• Not required
19.	**Risks and Assumptions**	**Risks** • The community is not able to engage in the trainings or outreach. • The communities engage in the trainings, but do not change their farming practices. **Assumptions** • Communities are interested in this type of training (communities expressed an interest during initial consultations). • If individuals within the community are trained to use the erosion reducing materials and have access to them they will utilize them on their farms. • Able to demonstrate locally applicable models. • Therefore, the erosion reducing measures promoted by this project actually reduce the erosion problem.
20.	**Prepared by**	Virginia Smith & Matthew Hardwick

Proposed V-CAP activity
Component 1.2.3: Pentecost Island

No.	Category	Details	Map of Pentecost Island – CP1/CP2

17.	Summary title name	Improved resilience through climate proofing of selected public conveyance infrastructure (i.e.: access way and foot bridges) in the coastal zone in at least 6 priority areas along the VTSSP2 planned road rehabilitation project.
18.	Thematic area	Climate proofing of river/tributary crossings, public access way and water supply system.
19.	Province	Penama



20.	Site description	 

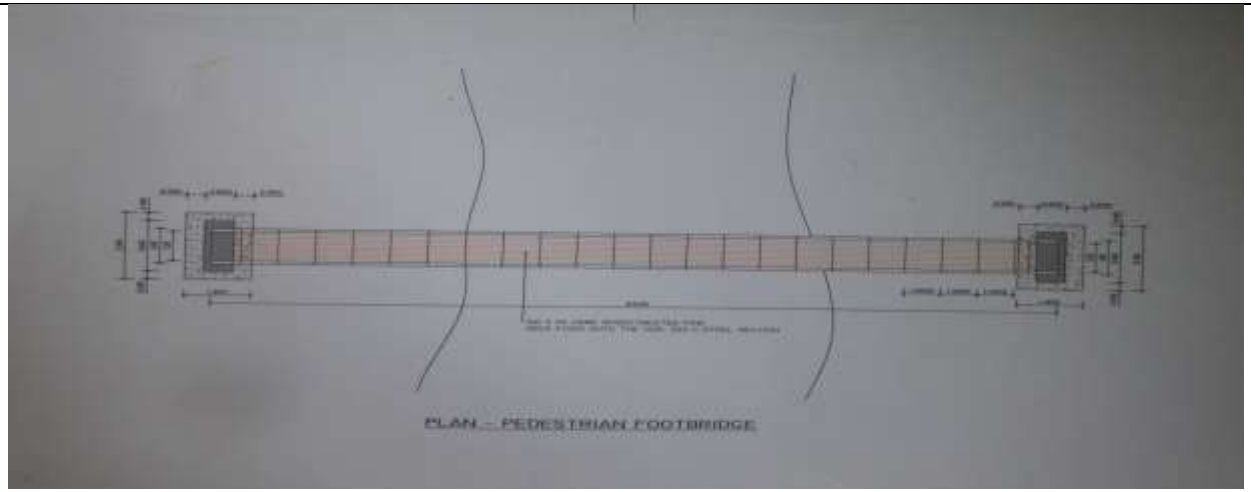
Damaged Concrete Crossing at Portugal-CP2

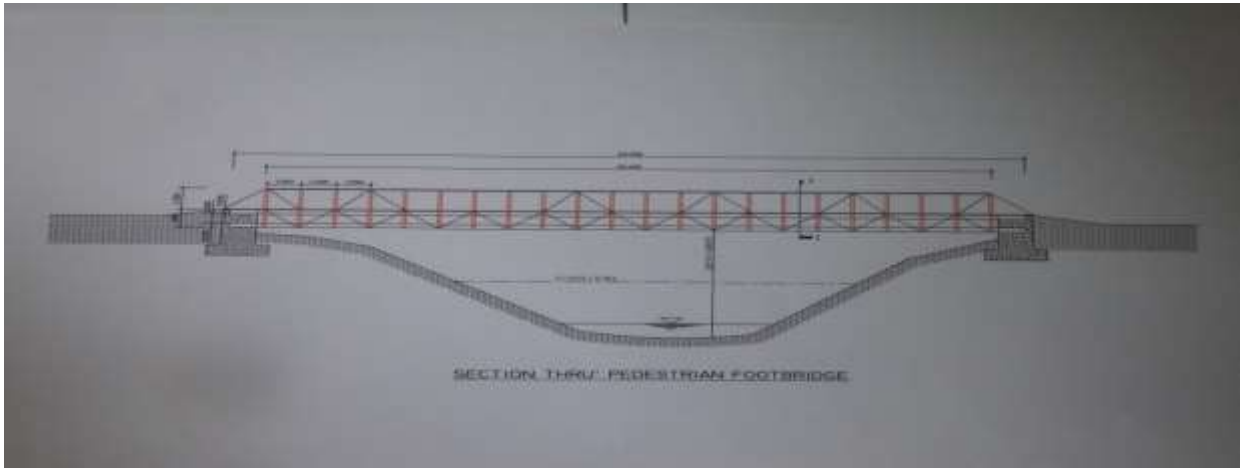
Steep footpath down to East Pentecost

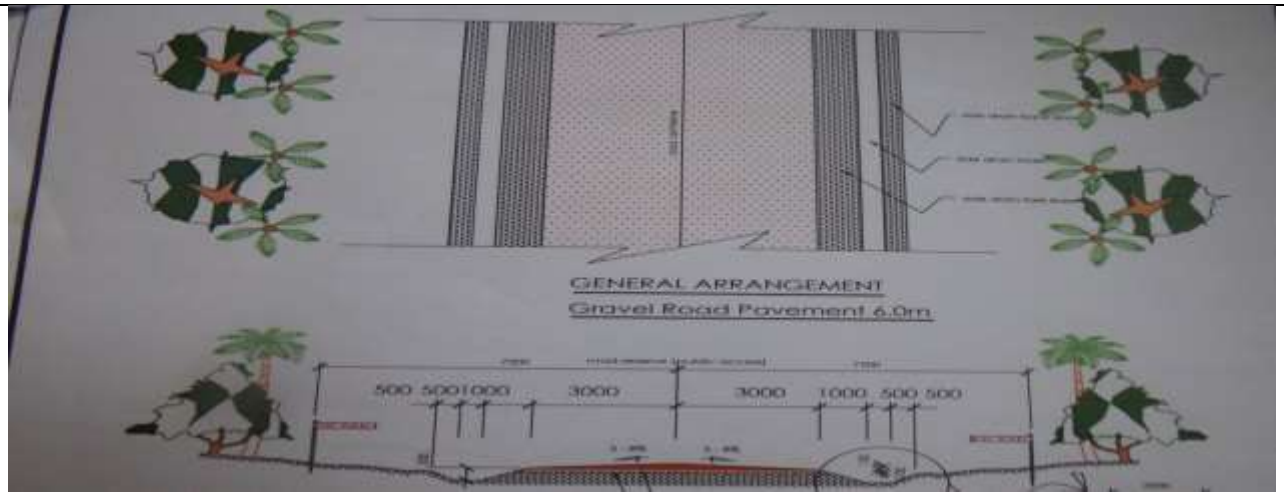
1,000 litres of storage poly tank in Savat Village.

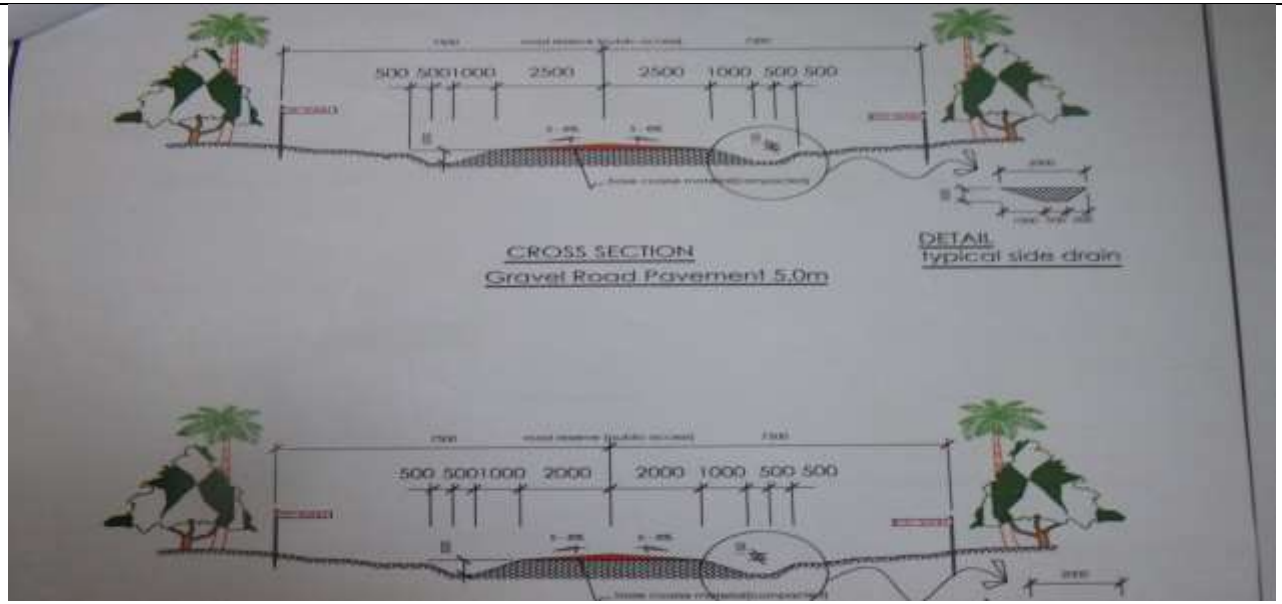
Water supply source for Savat

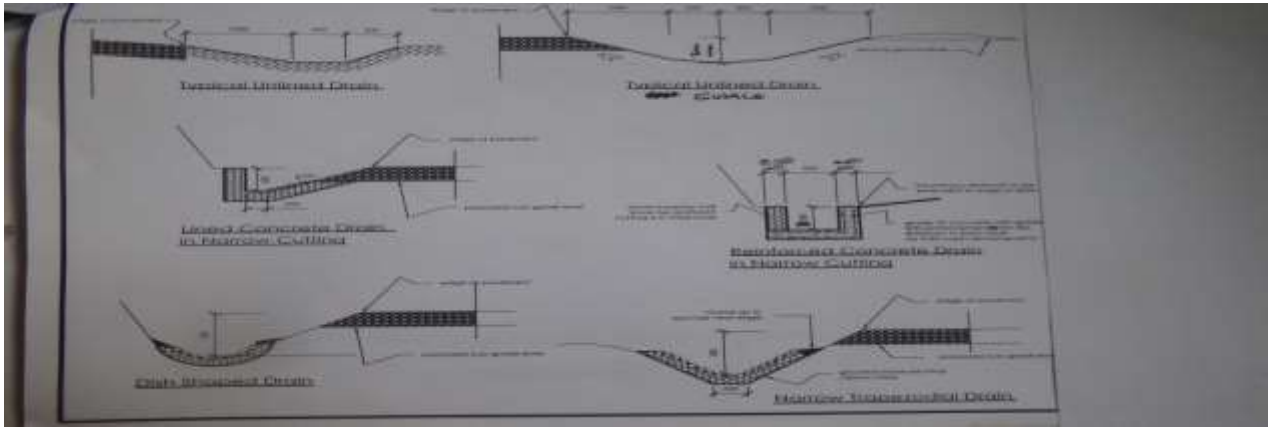
Typical River crossings in East Pentecost

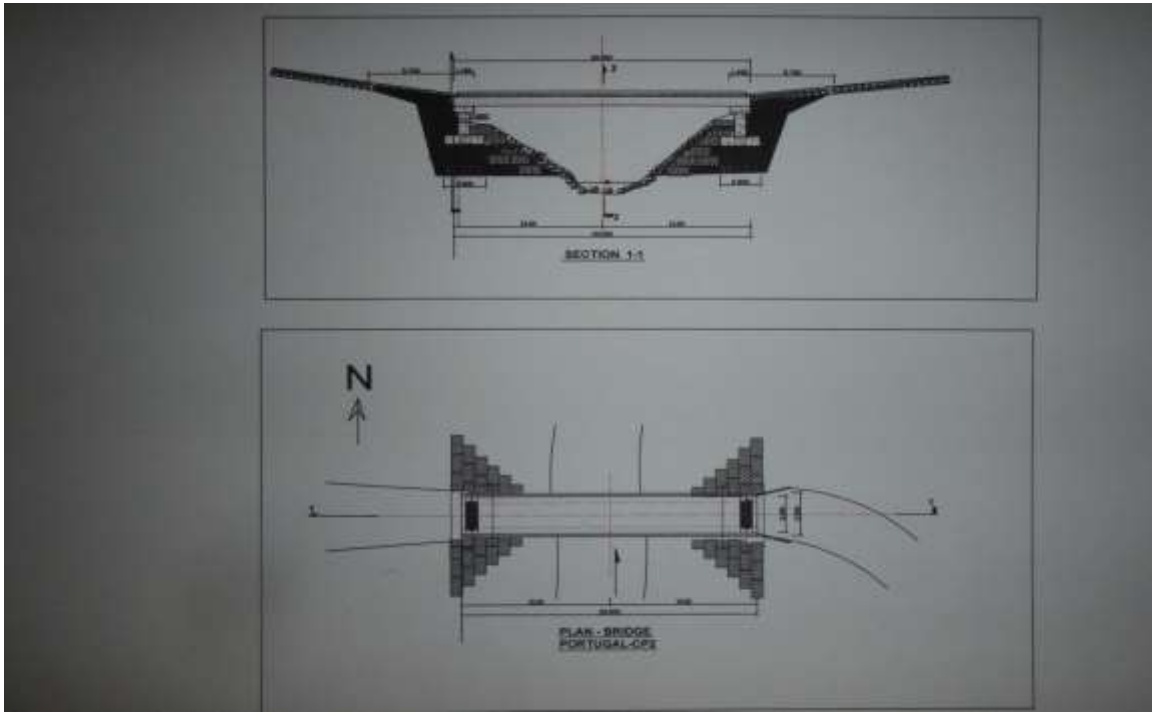

PLAN – PEDESTRIAN FOOTBRIDGE


SECTION THRU' PEDESTRIAN FOOTBRIDGE

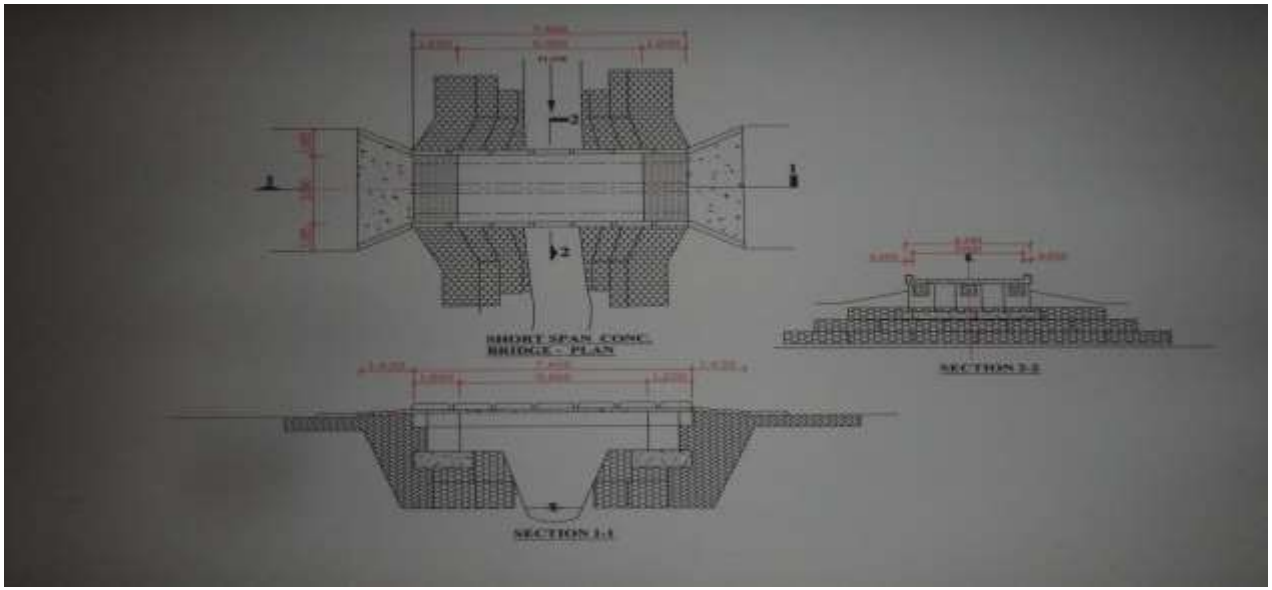

GENERAL ARRANGEMENT
Gravel Road Pavement 6.0m
500 500 1000
3000
3000
1000 500 500

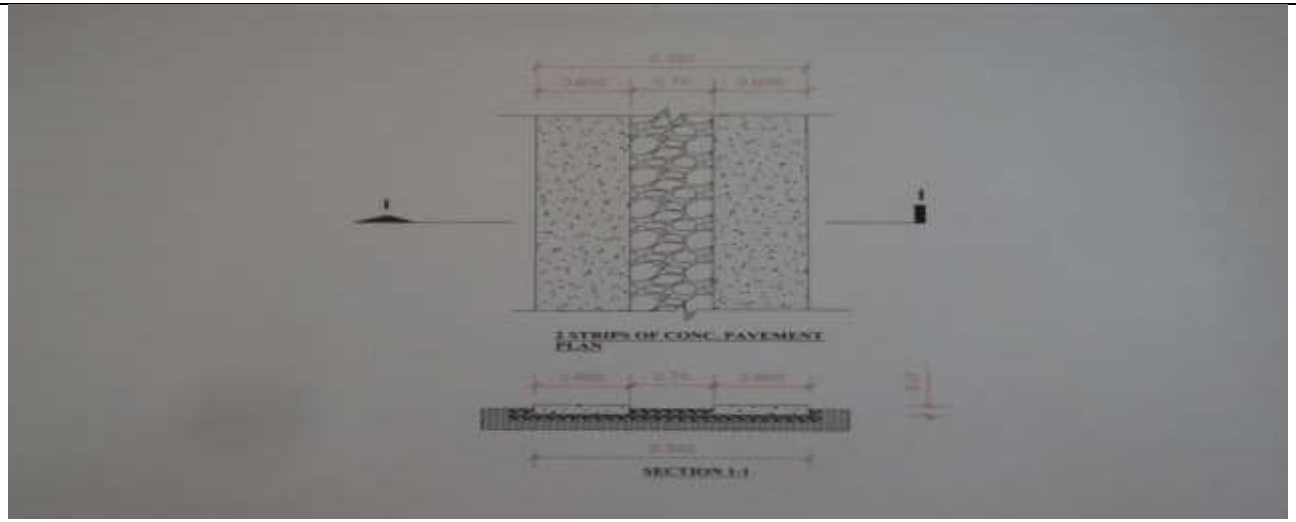

500 5001000 2500 2500 1000 500 500
CROSS SECTION
Gravel Road Pavement 5.0m
DETAIL
typical side drain
500 5001000 2000 2000 1000 500 500





20m long Steel-Concrete bride – Portugal CP2


SHORT SPAN CONC.
BRIDGE - PLAN
SECTION 3-3
SECTION 1-1

		
21.	Target communities	Central Pentecost Communities including Bwatnapni, Ena, Leravingu, Tosi, Vanuwalekaro, Vanue, Kumeut, Lemamlege, Naruwa, Wading, Nokoratawea, Mournhal, Lenga, Nuwi, Naowoto, Wujamel and Melsisi communities, Vansemakul, Guun, Ilamre, Umbigu, Lewawa, Bines, Tansip, Lemalda, Lalak, Onlaba, Nokonbok, Savat, Levetlis, Nokonkaop, Larinmat, Tankarang, Vanrasini and Tsinbwege in CP1/CP2.
22.	Description	Improve the resilience of selected public conveyance infrastructure (i.e.: access way, foot bridges, pavement crossings), etc. in the coastal zone in at least 6
23.	Rationale – addressing what climate change issue	Public use the road to travel between villages and public facilities for their everyday needs. This includes traveling to and from health, education and employment facilities and their village farms. The roads are also used for transport for goods and services to local markets and ports. The project aims to maintain public network conveyance systems by reducing flood risks associated with climate change and to upgrade the standards of the existing road access to a more resilience transport sector network.
24.	Impact of proposed activity	Climate impacts such as increased precipitation increase floods which destroy and increases risk to public conveyance systems and impedes the flow of both mobile and pedestrian traffic along formed roads. . Destroyed or impassable roads impacts the flow of goods and services between villages nodes. It impacts public livelihood activities
25.	Base line	• The existing constructed central coastal public conveyance system;

		• The road transports goods and services between villages; • Sections of roads has deteriorated due to lack of maintenance and increasingly inaccessible due to inclement weather and poor condition; • Road constructed of in-situ materials; • Road crosses rivers and creek tributaries; • Flooded river crossing has in the pass endangered the safety of public traversing the crossings; • VTSSP2 planned road rehabilitation Project in 2015/2016
26.	Activity Output	Improved resilience through climate proofing of selected public conveyance infrastructure (i.e.: access way, roads, staircase and foot bridges), etc. impleme
27.	Proposed specific activities	1. Site 1 – Bwatnapni river crossing - 26m long foot bridge made of lattice steel and concrete decking plus concrete pier support on each end of the side of the river. Cost = 1,300,000 Vatu (Labour cost – 260,000 Vatu, Material, transport & Equipment = 1,040,000 Vatu) 2. Site 2 –Melsisi river crossing - 20m long foot bridge made of lattice steel and concrete decking plus concrete pier support on each end of the side of the river. Cost = 1,400,000 vatu (Labour cost – 280,000 Vatu, Material, transport & Equipment = 1,120,000 Vatu) 3. Site 3 –Melsisi River crossing – 25m long foot bridge made of lattice steel and concrete decking plus concrete pier support at each end Of the side of the river Cost = 1,250,000 Vatu (Labour cost – 250,000 Vatu, Material, transport & Equipment = 1,000,000 Vatu) 4. Site 4 – Melsisi River crossing – 22m long foot bridge made of lattice steel and concrete decking plus concrete pier support at each end Of the side of the river. Cost = 1,125,000 Vatu (Labour cost – 225,000 Vatu, Material, transport & Equipment = 900,000 Vatu) 5. Site 5 – Melsisi Water Supply System upgrade – increase storage capacity and pipe size. Cost = 800,000 Vatu (Labour cost – 160,000 Vatu, Material, transport & Equipment = 640,000 Vatu) 6. Site 6 - Portugal – 20m long x 3m wide concrete steel suspended Bridge Cost = 12,800,000 Vatu (Labour cost – 2,040,000 Vatu, Material, transport & Equipment = 10,760,000 Vatu) 7. Site 7 – 4km road rehabilitation works from Vanrewerep to Nokonbok

		Cost = 12,000,000 Vatu (Labour cost – 1,760,000 Vatu, Material, transport & Equipment = 10,240,000 Vatu) 8. **Site 8 - Permanent Staircase** – 1km of staircase along existing critical footpath down to Vanrasini **Cost = 2,000,000 Vatu** (Labour cost – 400,000 Vatu, Material, transport & Equipment = 1,600,000 Vatu) 9. **Site 9 – Road Works** – 6km road upgrading to climate proof the existing road from Levetlis to Tsinbwege **Cost – 10,302,000 Vatu** (Labour cost – 1,760,000 Vatu, Material, transport & Equipment = 8,542,000 Vatu) 10. **Site 10 – Savat Water Supply System Upgrading** – Increase storage capacity and Pipe size **Cost = 700,000 Vatu** (Labour cost –140,000 Vatu, Material, transport & Equipment = 560,000 Vatu) 11. **Site 11 – Levetlis Foot Bridge –** 24m long foot bridge made of lattice steel and concrete decking plus concrete pier support at each end Of the side of the river. **Cost = 1,500,000 Vatu** (Labour cost – 300,000 Vatu, Material, transport & Equipment = 1,200,000 Vatu) 12. **Site 12 – Levetlis Concrete Bridge – 4**m long x 3m wide RC Concrete Bridge/Culvert **Cost = 1,400,000 Vatu** (Labour cost – 488,000 Vatu, Material, transport & Equipment = 912,000 Vatu) **Sites 13,14,15,16,17 – Larinmat to Tsinbwege Bridge infrastructures –** 5m long x 3m wide RC Concrete bridge **Cost = 1,400,000 Vatu x 5 = 7,000,000 Vatu** (Labour cost – 2,440,000 Vatu, Material, transport & Equipment = 4,560,000 Vatu) 13. **Site 18 – Road works –** 1km Road upgrading from end of Lalak road towards start of the footpath down to East Pentecost **Cost = 3,200,000 Vatu** (Labour cost – 840,000 Vatu, Material, transport & Equipment = 2,360,000 Vatu) 14. **Site 19 – Vansemakul - 1.5km concrete road pavements – 2 strips of concrete pavement** **Cost = 5,800,000 Vatu** (Labour cost – 500,000 Vatu, Material, transport & Equipment = 5,30,000 Vatu)

28.	Cost of the project activities on Central Pentecost	The cost of the Project Activities are as follow • Road infrastructures, Footpath bridges, staircase, concrete bridges, concrete pavements and water supply system upgrading as indicated above. = 62,577,000 Vatu
29.	Component Link	This component will link with the other outputs i.e. 1.1 and 1.2.1. and 1.2.2. It will work with local communities on the implementation of these activities. Communities will be involved in the maintenance of appropriate areas of the road.
30.	Other Projects	VTSSP2 planned road rehabilitation project
31.	Implementation	Implemented by Public Works using Community base contracts.
32.	Outline Terms of Reference	Sites 1-20 – Suspension foot bridges, concrete pavements , concrete bridges, road upgrading, permanent staircase and water supply system. • Conduct site survey/investigation; • Consultation to be done with VTSSP in regard to coordination and facilitating the construction of the project by using IBC or Public Works resources; • Design the appropriate type of crossing in accordance with best engineering practice, standards and codes to address the climate threat and its impacts; Implement the designed activity.
33.	Contract Packages	To be determined in consultation with Penama Provincial Council and PWD
34.	Indicators	Suspension foot bridges, concrete pavements , concrete bridges, road upgrading, permanent staircase and water supply system in CP1/CP completed.
35.	Benefits	Travel along the public conveyance systems will be safer and easier and the public will be protected from climate related flooding. The project will provide a more efficient movement and flow of traffic along the road connecting other private and public facilities. The project will provide for an all-weather access between villages and other public and private facilities.
36.	Use of Models	• Vulnerability Assessment Tools appropriate to the given environment was used to determine the impacts and vulnerability of the public conveyance systems to climate change including determining adaptation options of those climate change threats • Best engineering practice are used to design and recommend appropriate adaptation options to climate change threats. • Case studies and lessons learned from similar island environment in the pacific were used to determine adaptation options;

37.	Beneficiaries	• Central Pentecost Communities including Bwatnapni, Ena, Leravingu, Tosi, Vanuwalekaro, Vanue, Kumeut, Lemamlege, Naruwa, Wading, Nokoratawea, Mournhal, Lenga, Nuwi, Naowoto, Wujamel, Melsisi communities, Vansemakul, Guun, Ilamre, Umbigu, Lewawa, Bines, Tansip Lemalda, Lalak, Onlaba, Nokonbok, Savat, Levetlis, Nokonkaop, Larinmat, Tankarang, Vanrasini and Tsinbwege in CP1/CP2.
38.	Gender	• Women could set up local stores to sell food for the workers at each site during construction; Women can participate in public/community awareness of the risks associated with climate change threats and risk; • Increased access to markets will encourage more women to participate in community business development in their respective areas;
39.	Environmental screening	Project of this nature will be given environmental approval by the Physical planning of the Penama Provincial Government.
40.	Risks and Assumptions	• Flooding of surrounding area; • Damage to road infrastructure; • Road transport impeded; • Public access between public nodes is compromised; • Environment destruction of surrounding properties; • It isolate and separate communities from services and help;
41.	Lessons learnt	• The lack of maintenance of the road has impeded the flow of traffic between villages and public nodes. • Emergency and safety of the communities has been compromised and has caused facilities at these river crossings; depends on these road infrastru • The flow of goods and services have been affected and disrupted; • Destroyed roads limits trade between villages.
42.	Total Cost (VT)	62,577,000
43.	Prepared by	Nathaniel Bue and Isikuki Punivalu,

Annex 1: Summary of PPG activities related to Pentecost Island and the sites

4.1 Community Consultations

There were 2 separate field missions to Central Pentecost island. The first initiated with a scoping mission to Seratamata, Ambae which was the original site proposed by Vanuatu national government based on the outcome of the VCAP Inception Workshop. After arriving to Seratamata, the VCAP design team consulted with the Penama Provincial Government, which indicated that the project would be more appropriate for another more suitable location: either North Ambae, Maewo or Pentecost. The provincial government cited that there were already existing CCA projects taking place in Seratamata and that there was limited possibility of creating synergy with the VTTSP project in this location. Also, the VCAP team observed that the coastal erosion issues present in Seratamata appeared to be rather a land-use / planning issue rather than a direct CCA issue.

After meeting with the Penama Provincial Government Council, the VCAP design team was directed and agreed to perform both a scoping mission to North Ambae and also one to Central Pentecost. Maewo was not included as the VTSSP project is not located on that island and there is a smaller population there.

After brief meetings with communities in North Ambae, the VCAP design team travelled by boat to Central Pentecost. Due to time constraints and a sizeable potential site area, a second assessment conducted by Matthew Hardwick and Nathaniel Bue from the VCAP design

Community meetings were held as outlined below. In addition as part of these meetings there focus groups on (i) gender, women and youth - to encourage women, young people and people with disabilities to express their views openly and (ii) a focus group on fisheries, coasts and the environment.

Date	Stakeholder Consultation	Men	Women, Youth, Disabled	Total
Sept 19	Briefing and consultation with Penama Province- SG of Penama Province, Provincial Planner, Asst Planner	3	0	3
Sept 20	North Ambae- Lombaha Community Consultation	22	6	28
Sept 20	North Ambae- Walariki Community Consultation	21	18	39
Sept 20	World Vision- Seratamata Office	1	2	3
Sept 22	Pentecost- Enna Community Consultation – CP1	42	6	48
Sept 22	Pentecost- Enna- Women & Youth Focus Group	8	12	20
Sept 22	Pentecost- Enna- Environment / Infrastructure Focus Group	9	2	11
Sept 23	Pentecost- Bwatnapni Community / School Consultation- CP1	34	42	76
Sept 23	Pentecost- Kumreut Community Consultation	23	12	35

Mar 17	Pentecost- Melsisi- Community Consultation	32	4	36
Mar 17	Pentecost- Melsisi Mini-Hospital Consultation- Lawrence, Mathias	2	0	2
Mar 18	Pentecost- Vanmalong Community Consultation- Vansemakul village	9	12	21
Mar 18	Pentecost- Igi Community Consultation- Umbigu village	21	15	36
Mar 18	Pentecost- World Vision & Rongon Community Consultation	14	8	22
Mar 20	Pentecost- Savat Village Women & Youth Focus Group	26	12	38
Mar 20	Pentecost- Basangol Community Consultation- Savat village	42	30	72
Mar 20	Pentecost- Lalda Community Consultation- Vanrasini village	51	12	63
Mar 20	Pentecost- Health Centre & Secondary School Consultation- Tsinbwege mission	3	1	4
Mar 21	Pentecost- Ranwadi School consultation	2	0	2
Mar 21	Pentecost- Waterfall Community consultation	34	32	66

In addition, the field mission undertook:

- Village surveys – guided walks through the village to identify and document key issues
- Surveys of water sources where specialist joined local communities to review water supply and sanitation
- Observation of farming and livestock management practices
- Observations of coastline noting beach erosion, beach aggradation, and species of interest and points of environmental concern.
- Underwater observation surveys – shallow water surveys – less than 10 metres
- Confirmation and explanation of issues of concern raised by villagers, e.g. plant diseases (i.e. Lap lap Leaf disease) or invasive species (i.e. American Rope).
- Inspection of infrastructure, including roads river crossings, walking paths, bridges, etc.