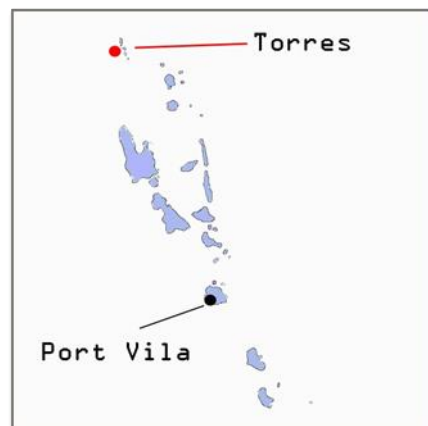


Torres Area Council; Torba Province

1 V-CAP site context and background

Torba is the most northern and isolated province in Vanuatu. The province has an estimated population of 9,359 people and a land-area of 882 km². Its capital is Sola on the island of Vanua Lava. There are two groups of islands in Torba Province, which are the Banks Group and Torres Groups.

Torba is the perhaps the least developed province in Vanuatu. Transport is irregular and difficult. Communication is challenging. Infrastructure is limited on most islands with a few roads and vehicles present on Vanua Lava, Gaua & Mota Lava. Air Vanuatu provides regular service to Vanua Lava, Mota Lava, Gaua & Loh Island in the Torres Group. Small “banana boats” are relied upon heavily, despite frequent rough seas, to access remaining communities. The difficulty and infrequent level of transport in Torba Province has resulted in a much higher pricing for locals when they purchase commonly used goods and supplies such as fuel and tinned foods.



A missionary doctor, who is also a pilot, lives on the island of Gaua and makes routine visits to the islands in the Banks and Torres groups and transports patients to health facilities in Luganville, Santo and Port Vila, Efate as necessary. Additional landing strips for his small plane have been created on some additional islands as well in Torba Province as well but these are not serviced by Air Vanuatu.

The Banks Group consists of the 9 populated islands. The largest populations are located on the islands of Vanua Lava with 2,597 people, Gaua with 2,941 & Mota Lava with 1,491 according to the 2009 census. The island of Gaua is an agricultural base of the region with the largest land area in the group. Gaua is also home to an active volcano that has displaced several communities within the past decade. Vanua Lava is the second largest island and has very mountainous terrain with many rivers and creeks surrounding the island. Salt-water crocodiles were introduced by a travelling missionary to Vanua Lava many years ago and the Torba Provincial Government Council has protected this invasive species to date even though there have been several reported crocodile attacks on local women (resulting in injury rather than death). Coastal resources in the Banks Group are very rich with mainly subsistence fishing activities being practiced by locals.

The Torres Group, consisting of 5 populated islands, is a smaller, flatter series of islands than the Banks Group and they are distributed over a shorter distance. The Torres islands are located at the extreme northwest corner of province, isolated from Vanuatu’s shipping routes. Receiving an abundance of precipitation, the temperature on the island varies during the hot and cold seasons. The average temperature is approximately 24.9°C at the coast and is a few degrees cooler in the centre of the islands. Weather in the Torres is seasonal, and warmer from November until April and the cooler and dryer period typically from May to October. Like

the rest of Vanuatu, the island's weather is strongly influenced by the El Nino Southern Oscillation cycles. During the El Nino (warm phase), the country is subject to long, dry spells. During the La Nina (cool phase), Vanuatu has prolonged wet conditions.

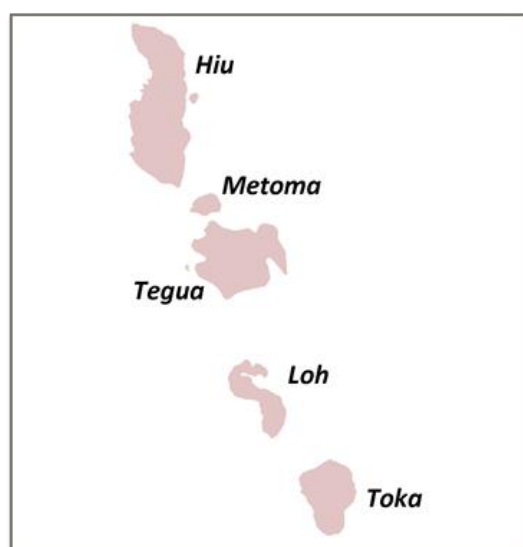
Torba Province is generally quite self-reliant and many households continue to live a traditional lifestyle where they produce a majority of their own goods such as locally made soap, salt and cooking oil. Income generation is a particular challenge in the Torres as the island group is located in such a remote area without easy access to large markets. The target communities in the Torres indicated during V-CAP consultations that they generate a majority of their household income through the sale of coconut crabs and lobster, kava, copra and agricultural produce.

2 Proposed project site and resources

2.1 Proposed site

This proposed project site is situated in the Torres island group, which consists of 5 populated islands located at the furthest northwest corner of Vanuatu in Torba Province. These islands are isolated from other islands, located approximately 103 kilometers from the provincial capital of Sola and 500 kilometers from Port Vila.

The villages / islands located within the currently defined project site are shown in the adjacent map and following tables:



Province	Island	Village	AC	Immediate Beneficiaries	Additional Beneficiaries	Total	M	W
Torba	Hiu		Torres	310	0	310	145	165
Torba	Metoma		Torres	19	0	19	10	9
Torba	Tegua		Torres	70	0	70	30	40
Torba	Loh		Torres	232	0	232	112	120
Torba	Toka		Torres	300	0	300	143	157
			TOTAL	931	0	931	440	491

Data derived from 2009 Census figures provided by VSO along with revised data collected during community consultations with Provincial Area Secretaries.

The specific names of the villages are outlined in the table below:

Area Council	Island (Villages)	Total Population
Torres	Hiu (Yugavikamena, Yakwana, Yawia)	310
	Metoma	19
Area Council	Tegua (Lirak, Tenya, Litetra)	70+
	Loh (Lunhariki, Renunha, Teleklek, Linua)	232
	Toka (Litau, Liqal)	300+

2.2 Planning and local governance

2.2.1 Traditional System

The traditional chiefly system in the Torres is the main governance structure visible throughout this project site. Village chiefly councils oversee a majority of the village level planning, community work, disciplinary meetings and dispute resolution, which occur regularly in the villages. On Toka Island, the communities indicated that every Saturday was reserved for performing community work under the direction and supervision of the respective village's council of chiefs while Monday was designated for Loh Island. Hiu and Tegua islands stated that their chiefs have not organized community workdays and meetings are arranged only as the need arises.

There are no disputes over chiefly titles within the villages on the Torres islands. The traditional chiefly system works quite effectively at these sites.

The Memetatenqewta Council of Chiefs is the chiefly body comprised of chiefly representatives from each island in the Torres. This Torres-wide council sets broader policy, rules and regulations for the villages as well as hearing the more serious and demanding disciplinary cases between villagers as well as performing dispute resolution services between communities.

2.2.2 The Torres Area Council

The Area Council for the Torres is well established. There are Area Council representatives selected through the provincial government and a collective Area Council development plan has been created, which represents the individual village plans within its boundaries.

There is currently no office building for the Torres Area Council, although Torba Provincial Government officials have stated their desire to build one on Loh Island, as it is located in the central area of the island group. As of 2013 during the V-CAP assessment, the Area Secretary operated out of his private house on Hiu Island.

There has been substantial support over the past 3 years from the Red Cross, which has supported the Area Council's and associated communities' planning processes.

2.2.3 District / Provincial:

The Torba Provincial Government Council maintains its presence in the Area Council through its Area Secretary. Area Secretaries are field officers employed by the provincial governments and they live and work within their respective Area Councils. Their basic duties include the following services: tax collection, voter registration, government awareness duties, Statistics

enumeration duties and assisting development projects within their respective Area Councils. The Area Secretary will play an integral role in facilitating future V-CAP work and meetings.

2.3 Brief profile

The target communities in Torres group indicated during V-CAP PPG consultations that they generate a majority of their household income through the sale of natural resources including sale of kava and copra along with fishing activity.

2.3.1 Marine and coastal areas:

Fishing is important at a subsistence level for all households within the project site. Communities have established a number of “kastom” or “tabu” marine managed areas. These are managed through traditional management systems and chiefly council representatives.

The islands in the Torres group have a very healthy coral reef system – the healthiest of the 6 sites in V-CAP. This is due to the relatively small populations and the small areas of islands inputting pollution, silt and nutrients into the coastal waters. Fishing is often conducted at night targeting reef fish. There is the opportunity to reduce pressure on the inshore reef fishery through the installation of FAD’s in suitable locations.

Lobster is regularly collected and sold to vendors in Port Vila and Santo via freight on Air Vanuatu. Unlike coconut crab, many times the lobster spoils due to high temperatures and a lack of ice or refrigeration.



(Girls on Loh Island holding lobsters to be sold in Port Vila)

Fishing does not generate much income for the people of the Torres. Even though the islands have abundant resources, the lack of ice or refrigeration combined with the distance to potential markets cripples this potential industry. There is potential to consider fish drying as a method to potentially increase sales of fish.

In summary in relation to challenges in the marine and coastal environment:

- All villagers reported declines in reef fisheries catches- although not considered as serious;
- Communities with MPAs indicated that these MPAs had a positive impact on coral reef fisheries around the MPA;
- There were no reports of a serious number of Crown-of-thorn sea-stars - however communities expressed an interest in being part of a control program;
- All villagers expressed concern at the potential impacts of climate change on coastal fisheries and their livelihoods.

2.3.2 Terrestrial

Upland agriculture

The terrestrial areas within the Torres Group are interesting as they contain small island ecosystems. There are tracts of forest and related habitat that are relatively intact on the islands. However, agriculture is practiced in suitable locations on each of the islands and land-use for agricultural purposes is expanding with increasing populations.

Some communities in the Torres have created traditionally protected forest sites or “tabu areas”, which are protected from hunting and prohibits the felling of trees. Limited exploitation to date may possibly be explained due to smaller populations and inaccessibility of markets. However, with an increasing number of people migrating from the Torres islands to larger islands such as Santo and Efate combined with increased access to markets through enhanced public conveyance infrastructure, there will be increasing pressure on these upland areas. V-CAP will seek to address related issues as outlined below.

Coconut crabs populations reside on each of the islands. There is a very healthy crab population on Metoma Island because the family living on the island have created a “tabu area” or protected area, forbidding the collection of crabs. The coconut crab population on this island is very healthy and provides a great educational resource to other communities in Vanuatu. In fact, an international film crew from the BBC has recently filmed a video documentary about the coconut crab on Metoma Island. However, the remaining islands in the Torres Group each reported a decrease in the population of coconut crabs on their islands and sought to develop sustainable long-term management strategies for this important food staple. The sale of coconut crab is highly regulated by the Vanuatu government in partnership with Air Vanuatu, which will not allow locals to send crabs via air-freight outside of the regulated season. There are current proposals to allow only authorized agents who have paid a license to purchase coconut crabs from the Torres but as of now, any buyer may purchase crabs directly. Most coconut crabs are sent to family members in Port Vila or Santo who then sell to restaurants and hotels, sending the money back to the island after subtracting a portion for themselves. The season for coconut crabs opens on November 1st and generally lasts for 9 months until July.

Kava in the Torres is generally sold domestically as “ready-made” kava. This means that the villagers prepare it especially to generate a small amount of income, selling their kava by the shell to potential customers from their homes.

Copra sales in the Torres, although historically on the decline in Vanuatu, are still regular and quite active on Toka Island only. Normally, copra prices fluctuate highly and farmers sell copra following market trends and government subsidies offered. Copra is sold to agents who then sell domestically or export abroad. The LCM store in Santo is main buyer of copra from the Torres now. Villagers on Toka complain that if there is inclement weather, there is no safe anchorage for ships, so often it is impossible for them to load their copra for export.

A range of issues were identified in relation to agriculture and terrestrial management. These are summarized in the table of issues in the section below.

2.3.3 Water supply and security:

Each village has a variety of means of water supply. These range from:

- **Gravity feeds** from “water sources” typically small springs where the water has been contained and then is piped – often over a number of kilometres to the village where there are typically shared taps to provide water to a number of households
- **Tank supply from metal roofing** – very limited as there is limited metal roofing in the area, except at schools- which should be equipped with tanks
- **Groundwater** – pumps and wells – very common in the surveyed villages

Water security is considered to be a primary concern and a community priority as indicated by Torres communities during V-CAP Consultations, especially on Tegua, Loh and Toka islands

Hiu Island- has 2 gravity feed water supply systems. During drought conditions, sometimes these gravity feed systems do not function. The EU funded these water supply systems in 2009, but at least 7 of 13 total gravity feed taps need repair as indicated by villagers. There are 13 poly or fiberglass rain tanks on Hiu, 3 of which have not been installed with water catchment yet. There are 5 cement rain tanks, 3 of which are broken. There is 1 ground well which is used for washing and bathing purposes and 1 well which has a hand pump which is not currently functioning. The community in Yawia indicated that in drought conditions they often boil ground water from the well in order to drink. Hiu Island’s development committee has recently in late 2013 submitted a proposal to AusAID to fund Ventilated Improved Toilets (VIP) throughout the island.

Metoma Island- has rain catchment and tanks funded by the French Embassy. With only 19 people living on the island, this small community has not indicated water security issues.

Tegua Island- there is 1 spring used for drinking purposes on this island. There are 10 poly or fiberglass rain tanks used here. There are 2 broken cement rain tanks no longer used. The ground wells are used for washing and bathing purposes only. After 1 month of drought conditions, the 20+ people depending on only 1 rain tank at Litetrak must walk elsewhere to obtain water. The 10+ people at Tenya regularly walk 700 meters one way to obtain water.

Loh Island- The villagers here complain about the mismanagement of water by some community members on the island. There is 1 spring located in Renunha that some villagers drink after boiling the water first, although many admit that they do not boil the water. There are 15 poly rain tanks and 4 fiberglass rain tanks used for collecting drinking water. There are 3 cement rain tanks that function and 5 cement rain tanks that do not function. Loh has 8

ground wells which are used for washing and bathing only with 3 hand pumps. Approximately once a year villagers from Loh drink water from the ground wells during drought conditions. Some villagers on Loh regularly walk 200 meters to collect drinking water.

Toka Island- Currently has 15 poly or fiberglass rain tanks which are used for drinking purposes. There are 2 wells with hand pumps that are in need of repair. There are several areas where underground springs emerging at the coast are utilized by the local population. After approximately 3 months of drought conditions, the water supply on Toka is scarce and sometimes villagers must walk a considerable distance to collect water. The primary school on Toka does not have a sufficient water supply for the students and staff. This island has recently received rain tanks donated by the EU, Rotary club and political parties.

2.3.4 Conveyance Infrastructure

In the proposed site there are no roads but rather a series of footpaths. Small boats are used to transport most goods.

Shipping:

In the proposed sites there are tremendous transport challenges. Cargo ships occasionally travel to the Torres, perhaps 1 – 2 times a year. When these ships arrive, often they do not travel to each of the islands in the group, Hiu to the far north is often neglected. The Red Cross of Vanuatu, which has been quite active in the area, has arranged for several shipments of supplies recently to the Torres in order to implement development projects. This has led to an influx in shipping activity for the Torres.

Airports:

There is an airport with a grass landing strip on Loh Island and it is regularly serviced by Air Vanuatu. Connections through Sola, Vanua Lava and other Torba Province islands are common.

2.4 Other socio-economic information

2.4.1 Health services

Health services are a major concern to the people of Torres, who complain that qualified health care workers often do not wish to live and work within the target area due to its relative inaccessibility. There is 1 Health Center on Loh Island and 3 Aid Posts on the Torres, located at Hiu, Tegua and Toka islands. The Dresser working at the Loh Health Center is capable of delivering babies, can treat broken bones and attend to other moderate health problems. Major health problems are referred to the hospital in Luganville, Santo or Port Vila. The Aid Posts provide minor medical treatment for patients and are staffed by Village Health Workers, who are community members that have undergone several months of training facilitated by the NGO, Save the Children.

There is an expat doctor who occasionally visits the islands and is well known to the locals as “Dr. Mark”. This doctor operates his own private airplane that he flies in to Loh Island to treat ill patients and / or transfer them to a hospital should they require further treatment.

2.4.2 Education:

There are 3 schools located within the target area as shown in the chart below:

School Name (Location)	Primary, Centre or Secondary School?	Language	Classes	Government Teachers (Community Teachers)	Total Students
Robin Memorial School (Loh)	Centre	English	1 - 8	4 (1)	83
Martin Primary (Hiu)	Primary	English	1 - 6	2 (1)	75
Toka Primary (Toka)	Primary	English	1 - 6	2 (2)	72

Pre-school- Pre-schools are located on Hiu, Tegua, Loh and Toka islands. Parents actively enroll their children and the average cost of admission for one term is between 200 and 1000 VT per child.



(Children standing along the coast of Hiu Island)

2.4.3 Other services

Financial:

There are no banking services or Western Union branches on the Torres islands. Government employees such as teachers either have arranged cash payments delivered to them on the

islands by utilizing Air Vanuatu passengers or they must occasionally pay for flights to Vanua Lava to access the Bank of Vanuatu branch there.

Security:

A new police post office has been built on Loh Island but it was not staffed as of 2013 during our V-CAP assessment. The closest police officers to the Torres were located in Sola on the island of Vanua Lava.

Government Extension Workers:

There are no government extension workers currently based within the target area. Occasional visits from government officers do occur within the target area but it is not commonplace.

2.5 Other development activities / sector

2.5.1 Mining

There are no mining interests reported in the Torres Group

2.5.2 Tourism

Tourism activity in this area is extremely limited. Occasional yachts visit the islands but generally do not contribute much to the local economy. There are several bungalows or guesthouses throughout the Torres islands, though these cater mainly towards NGO and government staff travelling to the area as part of their work. Loh island in particular receives a few tourists that arrive via Air Vanuatu as the airport is located here.

2.5.3 Small business

Small businesses and income-generating activity contribute to the local economy in the Torres as well. Within the target area, the villagers consulted indicate that there are approximately 24 small stores, 15 local bakers, 6 boat transports generating small revenue. The sale of livestock also generates a moderate level of income for target communities, although not nearly as substantial as the sale and harvest of marine resources.

2.6 Other development projects

There are a limited number of development projects in the Torres. These are outlined below:

- The Red Cross has played a significant role in providing assistance to the people of the Torres, focusing primarily on DRR objectives. The Red Cross employs two staff, a man from Hiu Island and a woman from Loh to act as project officers. They have formed Community Disaster Committees in each village as well as long-term development plans for communities. Red Cross radios and training to operate these HF radios have been provided throughout the islands with funding provided by the UN Joint Presence "VCR" project. There are 2 radios on Hiu, 1 on Tegua, 1 on Loh and 1 on Toka. These radios allow for communication between Torres islands and Port Vila, as there is no mobile phone reception within the target area as of 2013. Tools with which to prepare evacuation routes in anticipation of an emergency have been provided to communities. Repairs to Hiu's primary school were funded in order that it may serve as an emergency evacuation center during cyclones. Several rain tanks have been distributed and Climate Change awareness talks have begun under the Red Cross program in the Torres.

- The French Embassy has recently contributed 2 rain tanks to the Torres, funded the maintenance of Loh's Health Centre and provided a hot air dryer for forestry related projects to Loh Island.
- The EU recently contributed 11 rain tanks to Toka island, UN Joint Program's "Community Resilience and Coping with Climate Change and Natural Disasters in Vanuatu" project which is administered through the DLA has provided 5 rain tanks for Loh island and the Rotary club donated 2 tanks to Toka island. A politician who has become a Member of Parliament recently in 2012 has also provided 2 rain tanks for Toka island.
- Save the Children funds the training of Village Health Workers who work at the island's 3 Aid Posts, the provision of medicines and the construction of a new Aid Post on Hiu Island, which was still a work in progress in late 2013.
- An anti-malaria program is currently underway throughout the Torres and recent arrivals by plane or ship have their blood tested for malaria.
- The Vanuatu Woman's Centre provides awareness throughout the Torres on domestic violence and family rights issues.
- Given the isolation of Torres it will be vital to build upon existing initiatives.

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

At the community level there were detailed discussions were held at 4 community meetings and one consultation, and through village inspection 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 in the area of Torres Area Council, 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 are outlined in the Gender and Social inclusion strategy.

BASELINE: Current potential threats and vulnerabilities – Torres Islands Groups from community assessments

	Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities
Community governance and planning related issues	Climate related disasters impacting on communities	<ul style="list-style-type: none"> - Weather related, i.e. cyclones, storms and unseasonal rain - Some villages have disaster management plans, but need mechanisms to implement the plans 	<ul style="list-style-type: none"> - Communities will continue to be heavily impacted by natural disasters made worse by climate change 	<ul style="list-style-type: none"> - Severe impacts on livelihoods at household, community and Area Council level 	HIGH	<ul style="list-style-type: none"> - Development of Community Climate Change Adaptation Plan - Development and implementation of Community DRR Plan - Strengthen communications and National Early Warning System - Link to Decentralisation Act Amendment 2014
	Lack of integrated community level planning process to integrate and mainstream climate change into village development planning and associated systems	<ul style="list-style-type: none"> - Processes already established and operating along sectoral lines - Processes need long-term strengthening 	<ul style="list-style-type: none"> - Lack of integrated and cohesive planning processes impacting on ability to respond to internal and external challenges and build resilience to climate change 	<ul style="list-style-type: none"> - Impacts on livelihoods at household, village, community and Area Council level due to lack of ability to respond to CC related impacts - 	MEDIUM	<ul style="list-style-type: none"> - Development of Community Climate Change Adaptation Strategy - Operation of effective Community Disaster Committee - Development and implementation of Community DRR - Link into National Early Warning System - Link to Decentralisation Act Amendment 2014
	Voluntary migration within and between islands and issues impacting on livelihoods and natural resource usage	<ul style="list-style-type: none"> - Coastal erosion - Increasing population - Decreasing water quality - Reduction in natural resources (e.g. coconut crab) 	<ul style="list-style-type: none"> - Continuing village level conflicts and challenges at the village and community level 	<ul style="list-style-type: none"> - Decreased social cohesion - Increasing health impacts - Decreased livelihood opportunities 	MEDIUM	<ul style="list-style-type: none"> - Development of Community Climate Change Adaptation Strategy - Establishment of Community Disaster Committee - Development and implementation of Community DRR
Issue: Marine ecosystem/ resource degradation	Potential for Coral Reef degradation due to Crown of Thorns Seastars (COTs)	<ul style="list-style-type: none"> - Degraded ecosystems - Removal of COTS predators - Increasing nutrients (?) 	<ul style="list-style-type: none"> - Increasing threat from COTs due to increased larval dispersion - however not reported as a major problem 	<ul style="list-style-type: none"> - Continued degradation of coastal ecosystems - Increasing sea temperatures and acidity will reduce ecosystem resilience 	Low-Medium	<ul style="list-style-type: none"> - Implementation of regime to enhance ecosystem health - Monitoring COTS status to understand populations - Active removal of COTs if identified as an issue in key sites
	Mangrove cutting and	<ul style="list-style-type: none"> - Mangroves used as 	<ul style="list-style-type: none"> - Reduction in ability to 	<ul style="list-style-type: none"> - Seasonal high tides 	Medium	<ul style="list-style-type: none"> - Some areas of mangroves need

Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities
removal has potential to enhance coastal erosion	<ul style="list-style-type: none"> source of fuel and timber - Lack of appropriate coastal management regimes 	<ul style="list-style-type: none"> provide ecosystem services (i.e. coastal protection, nursery grounds) - Increased coastal erosion 	<ul style="list-style-type: none"> related events will inundate villages / coastal communities 		<ul style="list-style-type: none"> management regimes - Mangrove management planning - Mangrove planting - Develop sustainable use programs
Mangroves and coastal vegetation was destroyed by a tsunami in recent years and now offer less coastal protection	<ul style="list-style-type: none"> - Tsunami from Solomon islands 	<ul style="list-style-type: none"> - Continued reduced ability for mangroves and coastal vegetation to protect coastal areas 	<ul style="list-style-type: none"> - Seasonal high tides, storms and cyclones have potential to inundate coastal communities 	Medium	<ul style="list-style-type: none"> - Substantial areas of mangroves need replanting and enhanced management regimes - Mangrove planting with associated monitoring - Develop sustainable use programs
Sediment and nutrient being deposited on nearshore coral reefs	<ul style="list-style-type: none"> - Poor upland agricultural activities - Logging - Erosion - Particularly an issue on island with larger populations 	<ul style="list-style-type: none"> - Continued deposition on reefs, seagrass and mangroves systems - Potential for smothering of coral reefs near creeks and river mouths - Ecosystem health will continue to decrease 	<ul style="list-style-type: none"> - Diminishing quality of coral reef, seagrass and mangroves to provide ecosystem services - Reduction in ecosystem services including fish and other livelihood support 	Low-Medium	<ul style="list-style-type: none"> - Development of Upland management plan - Upland erosion control measures - Education and awareness activities - Enhanced agricultural practices
Coastal fisheries catches decreasing	<ul style="list-style-type: none"> - Overfishing - Tabu areas not effective management systems - Lack of planning of marine resource management - Lack of enforcement of laws 	<ul style="list-style-type: none"> - Continued overfishing and loss of breeding stock and biodiversity - Ecosystem health will continue to decrease - Some locations are reported as remaining health due to lack of fishing pressure - Population continues to increase 	<ul style="list-style-type: none"> - Increase sea temperate will increase coral bleaching and ecosystem damage - Increasing acidity will impact on ecosystems 	Medium	<ul style="list-style-type: none"> - Development and implementation of Integrated Coastal Zone Management Plan - Develop integrated system of MPAs and fisheries management approaches - Installation of FADs
Coastal issues	Coastal inundation	- Increased	- High as some		- Ensuring vegetation of shoreline

Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities	
from king tides and related events	construction in coastal margins combined with erosion	communities constructed in proximity to the coastal zone - Potential for impacts on infrastructure and coastal assets	become increasingly salinized - Coastal infrastructure will be flooded and degraded	high	- Securing alternative water supplies - CC Adaption Planning ensuring re-location of infrastructure assets away from coast	
Areas of coastline eroding 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	- Currently houses, churches, schools potentially are threatened	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 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)	- Increasing danger – particularly in extreme weather events -	- 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 - Consider options for communities in case of community decision to relocate	
- Land-based issues		-				
- Water quality and supply	Water sources for communities polluted	- Groundwater is increasingly salinized from saline water intrusion - Polluted from septic and pit toilets - Sediment entering water sources from poor upland management	- Saline water intrusion becoming an issue in some coastal villages; - May become worse under cc scenarios;	- Community health impacts, particularly on women, elderly and children	low – 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 harvest rainwater - Increasing variability in rainfall	- Seasonal water shortages – - Households consuming less than optimal water	- Impacts on human health - Continued provision of emergency water	Medium-high	- Installation of additional water storage at schools and in selected villages - Assistance in planning for water

Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities	
		<ul style="list-style-type: none"> - Increasing populations 	<ul style="list-style-type: none"> - 	supplies	<ul style="list-style-type: none"> - sources on the main islands in preparation for migration from small islands - WASH program to ensure water quality 	
Damage to the water distribution system post natural disaster	<ul style="list-style-type: none"> - Physical damage to system - No emergency back-up system 	<ul style="list-style-type: none"> - Continued in ability to manage post-disaster - Risk to human health 	<ul style="list-style-type: none"> - Not enough water resulting in increase in health problems following a natural disaster 	Medium	<ul style="list-style-type: none"> - Development of DRR Plan and Area Council and Village Level - Climate proof current water systems 	
- Upland management - Erosion and soil management	Deforestation	<ul style="list-style-type: none"> - Need for timber and related income - Lack of alternative to timber for construction 	<ul style="list-style-type: none"> - Cutting continues without replanting - Increased access into site will result in increase in level of logging - Erosion may become worse 	<ul style="list-style-type: none"> - Intense rains will further damage forests, resulting in soil instability and increased erosion - Changes in climate will influence forest structure 	MEDIUM	<ul style="list-style-type: none"> - Development and implementation of Integrated Upland and Catchment Management Plans - Nursery to support production of tree saplings for reforestation programs - Identification of opportunities for terrestrial protected areas / CCAs
	Upland erosion issues	<ul style="list-style-type: none"> - Poor upland management - Agricultural activities - Logging - Erosion of riverbank 	<ul style="list-style-type: none"> - Continued erosion - Loss of top-soil - Impacts on marine and coastal ecosystems 	<ul style="list-style-type: none"> - Loss of top soil - Impacts on coastal and marine environment 	Low	<ul style="list-style-type: none"> - Development and implementation of Integrated Upland and Catchment Management Plans - Nursery to support production of tree saplings for reforestation programs - Agricultural extension
	Farming practices cause erosion	<ul style="list-style-type: none"> - Lack of understanding of alternative practices - Lack of access to different crop varieties 	<ul style="list-style-type: none"> - Continued erosion - Loss of top-soil - Impacts on marine and coastal ecosystems 	<ul style="list-style-type: none"> - Several farming practices, such as slash and burn farming, causes less soil stability and an increase in sediment generation and top soil loss 	Low	<ul style="list-style-type: none"> - Education outreach and distribution of erosion preventing species for erosion control
Livestock and natural resources	Coconut crab harvest is decreasing in most islands	<ul style="list-style-type: none"> - Overharvesting - Changes in utilization of terrestrial areas - Conversion from 	<ul style="list-style-type: none"> - Continued decline and local extinction of coconut crab - 	<ul style="list-style-type: none"> - Change in terrestrial ecosystem functioning will impact ecosystem ability to support 	High	<ul style="list-style-type: none"> - Development of coconut crab management strategy to promote long-term sustainable harvesting and utilization - Build upon community

	Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities
		forest into agricultural areas		crabs		conservation initiatives in selected islands
Agriculture and Horticulture	Changes/difficulties in growing seasons and crop management	<ul style="list-style-type: none"> - Change in season timing / fruiting - Possible link to climate change reported 	<ul style="list-style-type: none"> - Impact on crop yield - Impact on seasonality 	<ul style="list-style-type: none"> - Potential impact on food security through timing of food production at household level 	MEDIUM	<ul style="list-style-type: none"> - Education outreach - Extension on agricultural species - Identification of climate change resilient crops
	Diseases and pests in agricultural produce	<p>Uncertain, but maybe related to:</p> <ul style="list-style-type: none"> - Changes in agricultural practices - Introduced diseases - Lack of alternative agricultural crop seedlings 	<ul style="list-style-type: none"> - The problem will continue to get worse with a reported loss of crops of up to 40% 	<ul style="list-style-type: none"> - High impact on food security through food wastage 	MEDIUM	<ul style="list-style-type: none"> - Education outreach and distribution of climate change resilient crops
	Droughts	<ul style="list-style-type: none"> - Part of a natural cycle - Increasingly will be linked to climate change 	<ul style="list-style-type: none"> - Occasional crop failure - Food shortages - Starvation 	<ul style="list-style-type: none"> - Not enough water, an increase in crop health problems 	MEDIUM	<ul style="list-style-type: none"> - Increase system capacity - New varieties of crops
	Horticulture erosion and sanitation issues	<ul style="list-style-type: none"> - Existing issues that will enhance the impacts of climate change 	<ul style="list-style-type: none"> - Pigs, cows, goats and chickens are left to graze in various locations. Often their grazing locations cause problems of soil erosion and sanitary conditions. 	<ul style="list-style-type: none"> - Changes in rainfall patterns may enhance erosion and water run-off / flooding 	low	<ul style="list-style-type: none"> - Education outreach and distribution of materials for animal management (fencing)
Public conveyance infrastructure	Pier and other transport infrastructure tracks become unusable and dangerous during wet season	<ul style="list-style-type: none"> - Design / siting specifications - Financial resources required for high quality infrastructure - Absence of maintenance 	<ul style="list-style-type: none"> - Ports will remain unusable in wet season and local communities will be reliant on dangerous ocean crossings - 	<ul style="list-style-type: none"> - Lack of safe access to markets, education, health and other government facilities - 	medium	<ul style="list-style-type: none"> - Identification of opportunities for strengthening port infrastructure - Regular maintenance program - Involvement of island based contractors/ communities in maintenance if resources are available
	River crossings present risk to pedestrian traffic	<ul style="list-style-type: none"> - Increased rainfall and extreme events made river crossing 	<ul style="list-style-type: none"> - Disruption to lives of rural communities - Lack of access to 	<ul style="list-style-type: none"> - Lack of access to markets, education,, health and other 	Low	<ul style="list-style-type: none"> - Build / rehabilitate public walking tracks /

Observation / threat	Causes	Risks – without intervention	Potential climate induced impacts	Level of threat	Potential adaption activities
(Secondary paths)	hazardous to pedestrian traffic	education, etc.	government facilities - Human injury and deaths		
Ensure walkways and pathways 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	-	Low	- Ensure appropriate design to ensure “climate proofing”

4 Proposed interventions

Situations change, project supporter's 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.

The above table provides an insight into the various adaptation options identified in the process of community consultations in the various sites as outlined in Annex 1 below.

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, Torres Area Council
 - 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 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: Torres Islands Area Council - Climate Change Adaptation Planning – Strengthening Village and Community Approaches

No.	Category	Details
1.	Summary title name	Torres Islands – Area Council & Village Climate Change Adaptation Planning – Strengthening Village and Community Approaches
2.	Thematic area	<i>Integrated CC-A plans mainstreamed in the coastal zone</i> <i>Cross-cutting</i> <ul style="list-style-type: none"> • <i>Gender / special needs groups</i>
3.	Province	Torba Province
4.	Site description	All villages in the Torres island group as described in the site profile.
5.	Target communities	There are 4 target communities included within the project site: Hiu island, Tegua island, Loh island and Toka island.
6.	Description	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.
7.	Rationale – addressing what climate change issue	Problem Identification <ul style="list-style-type: none"> • There are no CC vulnerability assessments / CC Adaption Plans at the village and Area Council levels • Lack of awareness and capacity to integrate CC Adaptation into Area Council level and Community Disaster Committee level planning • Lack of formal institutional structure to address CC adaption planning processes and implement adaptation measures • Monitoring and evaluation capacity of local governance structures is limited. Report writing capacity is limited.
8.	Impact of proposed activity	<ul style="list-style-type: none"> • 4 coastal communities more resilient to CC through implementation of integrated CC-A plans in the coastal zone
9.	Base line	<ul style="list-style-type: none"> • 1 of 1 Area Councils established • 1 of 1 Area Council 5 Year Development Plans created • 0 of 4 Community CC Adaptation Plans made for target communities by CDC's with DRR and ICZM components • 4 of 4 CDC's created in target communities • 0 of 1 Area Councils in target areas have CC / DRR Centers which also serve as the Area Council Office building
10.	Activity Output	<ul style="list-style-type: none"> • 4 community CC Adaptation and Coastal Zone Management Plans made including preparedness and response plans and development priorities, formulated in the context of ICZM. • 1 Area Council has created 5 year development plans incorporating CC Adaptation & coastal zone management
11.	Proposed Specific Activities	Planning Phase <ul style="list-style-type: none"> • Local governance institutions and structures are strengthened to allow for climate change adaptation plans to be created and effectively delivered on village and Area Council levels.

		<p>Existing village level Community Disaster Committees to be strengthened in 4 target communities. Hiu, Tegua, Loh and Toka each have well-functioning CDC's that were established by the Red Cross, but little has been done in regards to CCA and ICZM planning. V-CAP integration with existing CDC plans in the Torres is vital to this component.</p> <ul style="list-style-type: none"> • Undertake vulnerability assessments at the community level and develop coastal CC Adaptation Plans including coastal zone management plans, • Involve representatives from VMGD and NDMO in undertaking these assessments of disaster and CCA risks, providing any necessary technical input to these CDC's while they create their plans • 4 CDC's from target communities create development plans considering CCA, DRR and ICZM. <p>Area Council level Torres V-CAP Project Implementation Committee comprised of a representative, most likely the Chairman, from each of the 4 target communities' CDC's, the Area Secretary from the Torres AC along with any relevant locally based government officers. To meet regularly on a quarterly basis.</p> <ul style="list-style-type: none"> • Identify capacity needs of Torres Area Council and Community Disaster Committees within and strengthen institutional development action plan (planning, writing and evaluation) considering inputs from the individual CCA plans created by CDC's • By end of planning phase develop comprehensive project workplan with agreed targets for remainder of project. • Development of an Area Council CC Adaption Plan for Torres Area Council <p>Implementation phase</p> <ul style="list-style-type: none"> • Regular meeting of Torres V-CAP Project Implementation Committee to evaluate the progress of the project implementation against agreed targets • Regular meetings of Torres Area Council (quarterly) to evaluate progress of Area Council Development Plans during implementation phase • Implementation of the institutional development plan for project area • 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
12.	Component Link	<p>Links and complementarities with other V-CAP Components:</p> <ul style="list-style-type: none"> • This component will monitor and evaluate work completed in components 1.2.1, 1.2.2 & 1.2.3
13.	Other Projects	<p>Links with other activities/projects/donors:</p> <p>The Red Cross has played a significant role is providing assistance to the people of the Torres, focusing primarily of DRR objectives. The Red</p>

		<p>Cross employs a man from Hiu island and a woman from Loh, to act as project officers. They have formed Community Disaster Committees in each village as well as long term development plans for communities. Red Cross radios and training to operate these HF radios have been provided throughout the islands, with 2 radios on Hiu, 1 on Tegua, 1 on Loh and 1 on Toka. These radios allow for communication between Torres islands and Port Vila, as there is no mobile phone reception within the target area as of 2013. Tools with which to prepare evacuation routes in anticipation of an emergency have been provided to communities. Repairs to Hiu's primary school were funded in order that it may serve as an emergency evacuation center during cyclones. Several rain tanks have been distributed and Climate Change awareness talks have begun under the Red Cross program in the Torres.</p>
14.	Implementation	<p>Implementing Agency (Ministry and Department)/ reporting requirements and coordination arrangements</p> <p>Coordination and Dissemination</p> <ul style="list-style-type: none"> This component to be coordinated by the Ministry of Internal Affairs through the Department of Local Authorities with delegated responsibilities given to the Torba Provincial Government Council & the Natural Disaster Management Office. Affiliating partners will include the Ministry of Climate Change through the Vanuatu Meteorology & Geo-Hazards Departments
15.	Indicators	<ul style="list-style-type: none"> 1 Area Council Development Plans modified for Torres AC containing CCA measures in addition to its DRR components (DLA, VMGD & Torba Province) 4 Community Climate Change Adaptation Plans created for 4 target communities by CDC's (VMGD, NDMO & Torba Province) 1 CCA / DRR centres rehabilitated which will also serve as the Area Council office for Torres AC
16.	Benefits	<p>Supporting the local governance institutions to plan for CC Adaptation on the district, Area Council and village levels, which 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 V-CAP 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.</p>
17.	Gender	<p>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 a 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.</p>
18.	Environment	<p><i>Is there a need for IEE, EIA? Actions proposed / screening needed?</i></p> <ul style="list-style-type: none"> No
19.	Risks and	<p>Any Risks related to this activity/project. Any Assumptions made in</p>

	Assumptions	relation to this activity/project Risks <ul style="list-style-type: none">• 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 Project Implementation Committee or the village level CDC's. Assumptions <ul style="list-style-type: none">• Community representatives will be willing to participate in the Project Implementation Committee, CDC's & Area Councils.
20.	Lessons learnt	
21.	Prepared by	Matthew Hardwick, Bernard O'Callaghan

Component 1.2.1: Torres Area Council - Increased resilience of coastal ecosystem to climate change

No.	Category	Details
1.	Thematic area	<ul style="list-style-type: none"> • NAPA Adaptation Strategies 6 and 9 • Project component 1.2.1 Cross-cutting <ul style="list-style-type: none"> • Gender / special needs groups and youth
2.	Site description	The Torres island group contains the most pristine fringing coral reef system in Vanuatu. The V-CAP site will comprise all islands of the Torres group including coral reefs, seagrass beds and mangroves in the Torres Area Council.
3.	Description	<p>Torres has very rich marine and coastal resources and currently due to low populations and challenges in accessing markets the pressure of these resources in currently very limited.</p> <p>These is an opportunity to enhance fisheries and coastal zone management to serve as a demonstration of community engagement to build resilience in coastal resources. The focus of these activities will be to build village, community and area level Integrated Coastal Zone Management Adaptation Plans (ICZMA Plans) to enhance resilience of coastal ecosystems to climate change.</p> <p>A particular focus at this site will be to build a resilient MPA / tabu area system between each of the island's marine ecosystem through a planned process. The communities at the site did not report major fisheries catch issues, and identified their relatively low populations and the reason. However, they were concerned that with increasing populations, there would be additional pressure on the resources.</p> <p>This was also the only site visited by the PPG where villagers did not report high numbers of Crown of Thorn Sea-star (COTs). However, further efforts will be undertaken with communities to ensure their removal and review of current fishing practices).</p> <p>This project will be achieved through a comprehensive baseline assessment of the marine and coastal environment, dialogues and consultations with key stakeholders including traditional owners, resource users, and representatives from government agencies.</p> <p>A comprehensive International Coastal Zone Management Adaption Plan (ICZMAP) will be developed with clear goals towards monitoring, implementation, and evaluation. The ICZMAP will then be implemented.</p> <p>It is anticipated that elements of this plan will include:</p> <ul style="list-style-type: none"> • Education and outreach to fishers and coastal users, with particular focus on ensuring that women are activity engaged in training programs; • Sharing of experience between all the island in the Torres group; • Encouraging the participation of youth in the removal of COTs; • Development of alternative income activities; • Installation of Fish Aggregating Devices (FADs) to enhance nearshore and coastal

4.	Rationale – addressing what climate change issue	<p>Problem Identification</p> <p>The greatest threat to the coral reef system from climate change in Torres is an increase in sea temperature and seawater acidification. These are major threats and the key adaptation approach will be to build ecosystem resilience; Additional threats include</p> <ul style="list-style-type: none"> Increases in precipitation during the wet season due to climate change, resulting in an increase in the generation of sediment in areas close to the larger island; . Ecosystem health has been degraded, due to factors such as overfishing, thus reducing the resilience to climate change – which will exasperated with additional stressors from climate change.
5.	Impact of proposed activity	<p>Increased resilience to climate change through healthier marine ecosystems supported by an increase in the area of Tabu Areas, CCAs and MPAs proposed by local communities to enhance ecosystem resilience, and link into the national Integrated Coastal Zone Management Strategy.</p>
6.	Base line	<p>Identify baseline – but also identify additional baseline information needs if required</p> <ul style="list-style-type: none"> There are a number of “kustom Tabu” areas around most of the islands and several CCAs. There are yet to be MPAs that have been formally approved; Coastal water is degraded by increased water turbidity from small rivers and streams; There may be limited number of Crown of Thorn Sea-stars degrading the reefs; Some issues related to mangroves that we affected by a tsunami and are being replanted; The quantity and quality of the marine resources is slowly decreasing due to fishing pressure.
7.	Proposed specific activities	<p>Break down of specific activities</p> <p>Planning Phase: Issue identification, intervention identification and planning</p> <ul style="list-style-type: none"> Field staff will be appointed to support and facilitate community dialogues, baseline development and outreach training session 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),and Identification of suitable locations for expansion of the Tabu system and the creation of additional LMMAs and CCAs. <p>Implementation Phase: Implementation of specific interventions</p> <ul style="list-style-type: none"> 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, including women Specific programs and activities will engage the youth in activities such as removal of Crown of Thorns Seastars; Training will also focus on the value and importance of protecting the dugongs; The Youth Club will seek to create innovative programs to engage and educate the youth, and Field staff will work with current turtle monitors to support community initiatives

		<p>to manage marine resources.</p> <p>On-going: Monitoring and Evaluation</p> <ul style="list-style-type: none"> • Develop, implement and evaluate annual work plans together with local communities • Undertake community monitoring of Tabu areas and CCAs • Turtle Monitors, include female 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 including women and youth will be held at least twice a year as per the annual plan, and • A specific focus should be monitoring marine ecosystems following natural disasters to assess the resilience;
8.	Activity output	<p>Proposed specific outputs of activities</p> <ul style="list-style-type: none"> • Trainings for the communities, targeting the fishers, on the value and importance of establishing marine protected areas. Training topics will include: the value of marine conservation, establishing conservation areas, endangered/protected species, and invasive species removal. • Assistance to the area in the selection of another Network Monitor to work with the current Network Monitor • Youth club and women's group trainings on marine ecosystems, healthy marine management practices and endangered species. Training topics will include: the value of marine conservation, endangered/protected species, e.g. Coconut crab and dugong; <p>Specific outputs will include:</p> <ul style="list-style-type: none"> • The establishment of at least two more marine MPAs. • The establishment of at least five more marine Tabu areas. • Increase in number and size of fish populations. • Assistance linking MPAs/CCAs into a local network.
9.	Indicators	<p>Baseline and performance indicators to be used to monitor that activity and/or output</p> <ul style="list-style-type: none"> • Baseline biodiversity, habitat and fisheries surveys based on adapted Reefcheck and other suitable methodologies; • Development of 5 Integrated Coastal Zone Adaptation Plans (one per island) approved by the national, provincial and local governments • Creation of new CCAs • Enhanced Tabu Area Management Plans for existing tabu areas • Decrease in coastal water turbidity; • An increase in fish catch and fish size; • Increase in fish catch and fish size as evidenced by repeated detailed base-line surveys, and • A reduction in the number of Crown of Thorn Seastars.
10.	Other Projects	<p>Links with other activities/projects/donors (current/potential)</p> <ul style="list-style-type: none"> • Link to ongoing activities of the Red Cross in Torres • Links to Turtle Monitoring Network • Link to MACBIO – GIZ/ IUCN

11.	Implementation	<p>Coordination and Dissemination</p> <p>This component of the project will be implemented by a Field Officer appointed by the Project Implementation Unit (PIU) together with the Secretary to the Torres Area Council.</p> <p>International and national specialists on marine ecosystem management will be appointed to lead and assist in the development of the planned interventions. A period of two weeks in the project site will be required to undertake these surveys and develop plans in consultation with local communities, Fisheries Department, DEPC and provincial agencies.</p> <ul style="list-style-type: none"> • 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. <p>In addition, the role of the Field Officer will include:</p> <ul style="list-style-type: none"> • Initial planning and consultation with local communities • Facilitating initial assessments with expert consultant and communities and development of plan • Supporting community training for fishers and appropriate community representatives; • Working with District /Provincial Fisheries Office for planning and deliver training; • Using GESI strategies to ensure full engagement of women and youth and develop and implement specific activities for these beneficiaries.
12.	Outline Terms of Reference	<p>TOR to be developed for International and national specialists on marine science.</p> <p>One Field Officer will be employed at a full-time basis to support this and other components for at least 3 years. The duties of this person will include:</p> <ul style="list-style-type: none"> • Identify, plan, coordinate community training; • Facilitation the linkages and coordination between the 4 Turtle Network Monitors based in the site; • Support development, capacity building and activities for a climate change Youth Club; • Support a Climate Change Youth Club and organize trainings and programs on marine ecosystems • Organize marine education and training for 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	<p>Expected benefits</p> <p>Enhanced marine ecosystem resilience to CC on Torres to the impacts of climate change, with benefits including:</p> <ul style="list-style-type: none"> • Developing the local system of marine conservation areas and Tabu areas, as well as larger marine conservation areas to: <ul style="list-style-type: none"> ○ Increase biodiversity and ecosystems resilience ○ Increase fish populations through protecting breeding nursery, and feeding grounds

		<ul style="list-style-type: none"> ○ Promoting spill over into the non-protected areas, improving the abundance of fish available for harvest • Providing opportunities for marine monitoring to assess and identify issues, educational outreach and invasive species mitigation, and • Increase the focus for the turtle and dugong conservation and management.
14.	Gender	<p>Links to Gender Action Plan</p> <p>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 resources and sustainable fisheries.</p> <ul style="list-style-type: none"> • This project links to the GESI Strategy by engaging women and youth through specific training programs.
15.	Environment	<p><i>Is there a need for IEE, EIA? Actions proposed / screening needed?</i></p> <ul style="list-style-type: none"> • Not required
16.	Risks and Assumptions	<p>Risks</p> <ul style="list-style-type: none"> • Community members do not engage in training programs and do not adhere to the governance of the LMMAs and Tabu areas • Effects of climate change could kill the reef or severely impede the reef unless action is taken • Lack of desire from communities for LMMA or Tabu area expansion, and • Communities choose not to apply material learned from the training program. <p>Assumptions</p> <ul style="list-style-type: none"> • 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. • Based on consultations conducted in this project area the design team assumes that the communities being targeted by this project will engage in training and apply the new knowledge 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 and beneficial in marine ecosystem sustainability.
17.	Prepared by	Bernard O'Callaghan and Virginia Smith

Component 1.2.2: Torres Area Council - Enhanced resilience of terrestrial areas managed to minimize erosion, provide clean water resources to both communities and ecosystems enhancing livelihoods

1.	Thematic area	1.2.2: Enhanced resilience of terrestrial areas managed to minimize erosion, provide clean water resources to both communities and ecosystems enhancing livelihoods: Cross-cutting - Gender / special needs groups and youth
2.	Site description	All islands in the Torres Group of islands
3.	Description	<p>Technical description of the activity/investment</p> <p>The focus of these activities will be to build village level, community level and Area Council levels approaches to enhancing resilience of terrestrial areas managed to minimize erosion, provide clean water resources to both communities and ecosystems, support sustainable agriculture through an integrated planning process.</p> <p>These activities will operate at the following levels:</p> <ul style="list-style-type: none"> • Village level • Community level (communities may contain a number of villages) • Torres Area Council Level; <p>This component will address the key challenges identified during PPG field consultations, in particular those issues considered as sensitive and high risk based on the likely impacts of climate change and the urgent priority to build resilience in this area. In particular, this project will focus on the following:</p> <p>Minimizing and upland soil erosion and maximizing coastal protection through</p> <ul style="list-style-type: none"> • 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, water catchments), and • Establishing erosion management measures around and upland of villages. <p>Supporting provision of secure clean water through:</p> <ul style="list-style-type: none"> • Enhancing dry season water storage through tank provision; • Identification of suitable mechanisms for groundwater management and protection; • Soft measures including planning for catchment management and erosion control; • Hard measures to reduce pollution of water sources; • Securing the water source through appropriate infrastructure, and • Providing emergency and disaster water supply backup. <p>Enhancing catchment management through:</p> <ul style="list-style-type: none"> • Enhancing a planned approach to upland and coastal management; • Providing support for plant species to reduce erosion; • Providing alternative timber species and sources; • Managing cattle and livestock grazing; and

		<ul style="list-style-type: none"> Identifying opportunities for establishment of community conservation and protected areas. <p>Enhancing climate resilient agriculture through:</p> <ul style="list-style-type: none"> Providing agricultural extensions services Planting of climate resilient species that can withstand heat, drought and disease Providing climate change resilient species, and Improving access to markets. <p>An integrated approach to addressing these issues will be achieved through the development of Integrated Upland and Catchment Management Plans (IUCMP). These plans will incorporate specific land management plans.</p> <p>A particular element of this component will support agricultural and forestry education outreach to farmers, including women and youth in consultation with provincial level agencies.</p>
4.	Rationale – addressing what climate change issue	<p>Problem Identification:</p> <p>Increased variability in rainfall patterns</p> <ul style="list-style-type: none"> Will impact on the seasonality and availability of groundwater upon which many of the island communities rely; Increases in precipitation due to climate change, particularly during the rainy seasons, may result in increased erosion on the hill slopes, resulting in the generation of more sediment; Increases 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; Increases in upland erosion results in a loss of valuable top soil; and Sediment being transported to the coast where it increases coastal water turbidity and deposits sediment on the coral reefs. <p>Higher temperatures</p> <ul style="list-style-type: none"> Wet and dry season dynamics due to climate change will require more climate resilient crops to insure food security, and Crop diseases are predicted to become more pervasive.
5.	Impact of proposed activity	<p>Outcome:</p> <p>The expected outcome of this component in Torres will be better planning and management to ensure enhanced resilience of terrestrial upland and coastal areas to minimize erosion, provide clean water resources, establish sustainable agriculture practises by communities and improved ecosystem health which additionally contributes to enhanced food security.</p>
6.	Base line	<p>It has been demonstrated that healthy upland and costal terrestrial ecosystems will be more resilient to climate change. On the islands of the Torres Group, the relative inaccessibility and low population have to-date protected the over-use of terrestrial resources. However, with the growing populations additional pressures will be placed on these ecosystems. Thus, efforts and planning processes are needed to be established to ensure:</p> <ul style="list-style-type: none"> Erosion in upland and coastal areas generating substantial amounts of sediment

		<p>that is washed into coastal waters does not increase;</p> <ul style="list-style-type: none"> • Ecosystem degradation and climate change does not severely impact on agricultural production; • Plans are developed for the provision of clean water to villages; • Logging, land encroachment, agricultural expansion is planned with consideration of ensuring resilience to climate change; and • Potential for sediment moving into marine and coastal systems is minimized.
7.	<p>Proposed specific activities</p>	<p>Break down of specific activities</p> <ul style="list-style-type: none"> • Baseline: Develop baselines of issues and threats of terrestrial upland and coastal ecosystems with a particular focus on impacts of climate change on agriculture, water supply, forestry and protected area management and related resources in the Torres Group: <ul style="list-style-type: none"> • Identification of highly erosive sites and factors associated with erosion causation • Field Officer 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 <ul style="list-style-type: none"> • Develop Integrated Upland and Catchment Management Plans (IUCMP) through the use of participatory approaches that integrate forestry, agriculture, water resources and traditional management regimes at village, community and areas council level that identify time-bound actions for long-term management including tabu and community conservation areas. • Survey of area to identify focus areas for erosion conservation, and. • Develop plans for the demonstration garden and nurseries in selected villages. • Implementation of Integrated Upland and Catchment <i>Management</i> Plans including nurseries, agricultural training and extension, provision of climate-resilient crops, though development of time bound annual work plans. <ul style="list-style-type: none"> • 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 programs for the management of populations of coconut crabs on the islands in the Torres Group; • Establishment of the demonstration training gardens and nurseries to demonstrate and 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: <ul style="list-style-type: none"> ▪ 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: <ul style="list-style-type: none"> • 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 workplans for the following year • Survey the forest villages to assess the amount of forested area (initial period and month 40)

		<ul style="list-style-type: none"> • 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, and. • Monitor the occurrences of landslides.
	Activity output	<p>Proposed specific outputs of activities :</p> <ul style="list-style-type: none"> • Trainings for community farmers, including women on better farming practices to reduce erosion and conserve top soil • Distribution of resources to community farmers to facilitate top soil conservation practices • Establishment of a Training Garden and Nursery 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 • 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.	Indicators	<p>Baseline and performance indicators</p> <ul style="list-style-type: none"> • Baseline biodiversity, habitat and agriculture and forestry surveys based on adapted suitable methodologies • Development and implementation of <i>Integrated Upland and Catchment Management Plans (IUCMP)</i> • Annual IUCMP workplans developed, implemented and reviewed • Establishment of one terrestrial CCA • Enhanced management plan for 1 terrestrial tabu areas • 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, and • Number of landslides occurring in areas of highlands • Number of communities with effective coconut crab management plans.
13.	Other Projects	<p>Links with other activities/projects/donors (current/potential)</p> <ul style="list-style-type: none"> • Related agriculture sector projects • Related forestry sector projects
14.	Implement-ation	<p>This component of the project will be implemented by the Field Officer appointed by the Project Implementation Unit (PIU) together the Secretary to the Area Council.</p> <p>Technical experts will be drawn from the Department of Agriculture and Department of Forestry. V-CAP will support operational expenses in relation to the delivery of technical activities.</p> <p>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 Torres will be required to undertake these surveys and develop plans in consultation with local communities. Additionally, they will develop</p>

		<p>plans for the nursery and training garden.</p> <ul style="list-style-type: none"> • In addition, support will be provided to 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. <p>The Field Officer (50% time) will coordinate the delivery of this component. Their role will include:</p> <ul style="list-style-type: none"> • Undertaking initial planning and consultation with local communities • Facilitating initial assessments with expert consultant and communities and development of plans • Supporting community training for farmers and ensuring women are actively engaged • Working with District /Provincial Forestry and Agriculture Office to establish nursery and training gardens for climate resilient crops and erosion prevention plants; and • Developing and implementing specific activities under the auspices of the CC Youth Club to support erosion reduction initiatives.
15.	Benefits	<p>Expected benefits</p> <ul style="list-style-type: none"> • A structured approach will be developed to ensure the planning for the future land-use to build resilience towards the long-term management of land resources in Torres. • The project will identify mechanisms to minimize the amount of erosion from the upland slopes of the site resulting in the following benefits: <ul style="list-style-type: none"> ○ Increase topsoil conservation ○ A healthier coastal marine ecosystems <ul style="list-style-type: none"> ▪ Less sediment deposited at the reef ▪ Less turbid coastal waters. • The project education and outreach will provide male and female farmers with the technical and physical resources to improve their farming practices and promote climate change resilient farming; • The project will enhance food security through insuring improved farming practices and promoting climate resilient crops, and • The project will enhance household livelihoods through improved quality and quantity of market produce available for sale.
16.	Gender	<p>Links to Gender Equity and Social Inclusion Strategy (GESI)</p> <ul style="list-style-type: none"> • This project links to the GESI Strategy by engaging women through training sessions. Through hands-on and locally relevant educational women will learn new farming techniques for sustainable farming. • This project links to the Gender GESI Strategy by engaging youth in training sessions and involvement in the training garden and nursery. Through a range of training activities, youth will learn new farming techniques necessary for a sustainable future.
17.	Environment	<p><i>Is there a need for IEE, EIA? Actions proposed / screening needed?</i></p> <ul style="list-style-type: none"> • Not required
18.	Risks and Assumptions	<p>Risks</p> <ul style="list-style-type: none"> • Communities are unable or unwilling to engage in planned trainings or outreach. • Communities engage in training programs but do not apply new knowledge and change current farming practices.

		<p>Assumptions</p> <ul style="list-style-type: none">• Communities are interested in this type of training, as expressed during project design consultations.• That when individuals within targeted communities are trained to use erosion reducing materials and have access to them, they will utilize these approaches on their farms, and encourage others to do the same.• The project will be able to demonstrate locally applicable models, and• Erosion reducing measures promoted by this project actually reduce current erosion problems.
19.	Prepared by	Bernard O'Callaghan and Virginia Smith

Annex 1: Summary of PPG activities related to Torres Area Council

4.1 Community Consultations

- When preparing to consult with villagers in the Torres, the V-CAP team contacted the Red Cross staff and the Area Secretary of the Torres via phone while he was on assignment in Sola. Several meetings were held with Red Cross officials based in Port Vila, who helped to communicate via HF Radio to the villagers to inform them of the V-CAP team's travel plans.
- The Secretary General for Torba Province was not contacted during this assessment due to his travel commitments during the time of V-CAP assessment, although the Assistant Secretary General was consulted.
- The main facilitator who helped arrange and organize community meetings within the Torres was the Area Secretary named Lendy. This field worker for the provincial government did an excellent job arranging with the chiefly councils for our meeting time and locations as well as guiding the V-CAP team throughout the project area. The Red Cross officer from Hiu island named Benjamin Brown also accompanied the V-CAP team throughout their travel in the Torres and assisted in facilitating community meetings.

Date	Consultation	M	W	Total
Oct 30	Torres – Hiu Community (Yug., Yakwana, Yawia)	16	23	39
Oct 30	Torres – Hiu Island Women & Youth Focus Group	0	17	17
Oct 30	Torres – Hiu Environment / Infrastructure Group	5	0	5
Oct 31	Torres – Metoma Island Community Consultation	2	3	5
Oct 31	Torres – Tegua Island (Lirak, Litetra, Tenya)	22	15	37
Oct 31	Torres – Toka Island (Litau, Liqal)	30	28	58
Oct 31	Torres – Toka Island Women & Youth Focus Group	0	14	14
Oct 31	Torres – Toka Island Env / Infra Focus Group	10	0	10
Nov 1	Torres – Loh Island (Lunhariki, Renunha)	24	31	55
Nov 1	Torres – Loh Island Women & Youth Focus Group	2	13	13
Nov 1	Torres – Loh Island Environment/Infrastructure Focus Group	10	0	10

- Community meetings went smoothly due to the superior organization of committees already established by the Red Cross on the islands. The V-CAP team met with the Community Disaster Committees on Hiu and Loh. On Tegua, Metoma and Toka the V-CAP team met with any villagers who were able to attend the meetings when the chief rang a large bell to summon those close by to attend. Arranging to meet with the full

Community Disaster Committees on Tegua and Toka was not possible due to communication problems and travel delays, however there was significant attendance by men, women and youth at all community meetings.

- The community meetings also had focus groups to allow technical V-CAP team members to further explore their respective fields. In respect to gender, a women's focus group was also held to allow women to express their views openly, which does not happen typically within the presence of men in public meetings in Melanesia. The engineers and environment specialists on the V-CAP design team met with the area's fishermen, hunters and others familiar with local resources as well as touring relevant community infrastructure.

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 ;
- Surveys of island to observe coastal erosion, development challenges in the villages;
- Observation of farming and livestock management practices;
- Observations of coast line 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);

4.2 Community development priorities identified in consultations

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

Hiu Island:

- 1.) Community hall / evacuation centers created in communities
- 2.) WASH- improved toilets, water supply
- 3.) Airport- create airport so that produce and coconut crabs can be sold more easily and doctor can access sick patients

Tegua / Metoma Islands:

- 1.) Water security
- 2.) Community hall or meeting center desired
- 3.) Agriculture- CC resilient species
- 4.) Facilitate knowledge sharing of coconut crab conservation efforts on Metoma island with school children and conservation committees

Loh Island:

- 1.) Water security
- 2.) Agriculture- resistance to pests and CC resilient species

3.) CDC's office / evacuation center / Area Council office

Toka Island:

- 1.) Fish Aggregating Devices (FAD's)- requested to alleviate impact of over-fishing on local reefs and for income generation
- 2.) Improved toilets- distance of toilets from households considerable and concerns over high water table on pit latrines
- 3.) Energy- energy project desired to provide renewable energy for household consumption