



REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: LDCF

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Project Title:	Adaptation to Climate Change in the Coastal Zone in Vanuatu		
Country (ies):	Vanuatu	GEF Project ID:	5049
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4866
Other Executing Partner(s)	Ministry for Climate Change Adaptation, Meteorology, Geo-hazards, Environment, Energy and Disaster Management.	Submission Date:	July 15, 2014
		Resubmission Date:	Aug. 28, 2014
GEF Focal Area(s):	Climate Change	Project Duration (Months)	60
Name of parent programme :	N/A	Agency Fee (\$)	803,000

PART I: Project Information

A. FOCAL AREA STRATEGY FRAMEWORK

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount	Indicative Co-financing
CCA-1: Reduce vulnerability to the adverse impacts of CC, including variability, at local, national, regional and global levels	1.1 Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas	1.1.1 Adaptation measures and necessary budget allocations included in relevant frameworks	LDCF	350,000	858,000
	1.2 Reduced vulnerability in development sectors	1.2.1 Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability	LDCF	4,850,000	21,777,253
CCA-2: Increase adaptive capacity to respond to the impacts of CC, including variability, at local, national, regional and	2.1 Increased knowledge and understanding of climate vulnerability and change – induced risks at country level and in targeted vulnerable areas	2.1.1 Risk and vulnerability assessments conducted and updated	LDCF	200,000	800,000
	2.2 Strengthened adaptive capacity to reduce risks to climate-induced economic losses	2.2.2 Targeted population groups covered by adequate risk	LDCF	1,850,000	4,082,000

global levels		reduction measures			
	2.3 Strengthened awareness and ownership adaptation and climate risk reduction processes at local level	2.3.1 Targeted population groups participating in adaptation and risk reduction awareness activities		400,000	280,000
		Sub-Total		7,650,000	27,797,253
Project Management Cost			LDCF	380,000	3,100,000
Total				8,030,000	30,897,253

B. PROJECT FRAMEWORK

Project Objective: To improve the resilience of the coastal zone to the impacts of climate change in order to sustain livelihoods, food production, preserve and improve the quality of life in targeted vulnerable areas.						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Co-financing (\$)
1. Integrated Community Approaches to CC Adaptation	INV	1.1. Integrated CC-A plans mainstreamed in the coastal zone 1.2 Improved climate resilience of coastal areas through integrated approaches	1.1.1 CC adaptation plans, including risk management, preparedness and response plans, formulated in the context of ICM and in relation to assessed site-specific vulnerabilities, subsequently adopted and mainstreamed in planning processes for at least 6 priority vulnerable coastal communities 1.2.1 Threatened coastal ecosystems and resources such as mangroves, coral reefs, and fisheries rehabilitated to support livelihoods and food production and increase climate resilience 1.2.2 Coastal areas stabilized through re-vegetation and other 'soft' approaches to complement 'hard' measures 1.2.3 Improved resilience through climate proofing of selected public conveyance infrastructure (roads, bridges, etc. implemented by the Public Works Department) in the coastal zone in at least 6 priority vulnerable coastal communities	LDCF	6,000,000	21,425,909

2. Information and early warning systems on coastal hazards	INV	2.1 Reduced exposure to flood-related risks and hazards in the targeted coastal communities	<p>2.1.1 Automated system for real time monitoring of climate-related hazards such as coastal flooding, storm surges, sea-level rise designed, installed and maintained; trends in these climate impacts analyzed over time</p> <p>2.1.2 Timely release of early warnings against coastal flooding and storm surges through various public media, e.g., radio, internet, TV through applicable public-private partnerships with e.g., with Digicel; TVL – Telecom Vanuatu Ltd; commercial radio and TV stations</p> <p>2.1.3 Capacity of 18 VMGD staff in the operation and maintenance of AWS and in the analysis of data strengthened</p>	LDCF	1,000,000	4,240,000
3. Climate Change Governance	TA	<p>3.1 Climate change adaptation enabling policies and supportive institutions in place</p> <p>3.2 Human resources in place at the national, provincial and community levels</p>	<p>3.1.1 Legislation and national/sector policies with impacts on climate change adaptation reviewed and a policy reform agenda developed and implemented (e.g., finalization of draft National CC Policy; incorporation of CC into the EIA Policy, and sector policies in forestry, coastal fisheries, agriculture, water and sanitation; localization of existing policies)</p> <p>3.2.1 Capacity building of key national and provincial government agencies (DEPC, PWD, Department of Internal Affairs, Departments of Fisheries, Forestry, Water) in areas of compliance and enforcement, monitoring and evaluation and mainstreaming of climate-related policies and regulations</p> <p>3.2.2 Communities empowered to deal with climate change impacts in the coastal zone through participatory approaches in</p>	LDCF	300,000	1,100,000

			vulnerability assessments, planning and community-based adaptation measures and capacity building			
4. Knowledge management	TA	4.1. Increased awareness and ownership of climate risk reduction processes at the national and local levels	4.1.1 Best practices are captured, documented, and distributed to all local and national stakeholders and shared globally in appropriate mechanisms (development, populating and maintenance of national website for CC) through the NAB (National Advisory Board) 4.1.2 Awareness, training and education programs developed and implemented for e.g. schools, households and the private sector; translated into Bislama and French as applicable and working with ongoing initiatives	LDCF	350,000	1,031,344
Sub-Total					7,650,000	27,797,253
Project Management Cost				LDCF	380,000	3,100,000
Total Project Cost					8,030,000	30,897,253

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE (\$)

Sources of Co-financing	Name of Co financier	Type of Co-financing	Amount (\$)
National Government	Public Works Department (PWD)	In-kind	15,000,000
	Department of Environmental Protection and Conservation (DEPC)	In-kind	250,000
	Vanuatu Meteorological and Geo-hazards Department (VMGD)	In-kind	840,000
	Vanuatu Fisheries Department	In-kind	1,880,341
Local Government	Provincial government and communities	In-kind	3,200,000
GEF Agency	UNDP	In-kind	2,731,344
Other Multilateral Agency(ies)	Australian Agency for International Development	Grant	3,921,568*
	Japan International Cooperation Agency	Grant	3,000,000
CSO	Vanuatu Association of NGOs (VANGO)	In-kind	74,000
Total Co-financing			\$30,897,253

*Co-financing from Australian Agency for International Development is AUD 4,200,000. This amount has been converted to USD 3,921,568 using August 2014 UNDP Exchange Rate: 1.071.

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b)	Total c=a+b
UNDP	LDCF	Climate Change	Vanuatu	8,030,000	803,000	8,833,000

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

COMPONENT	GRANT AMOUNT (\$)	CO FINANCING (\$)	Project Total (\$)
International Consultants	924,600	2,908,800	3,833,400.00
National/Local Consultants	1,613,150	5,244,450	6,857,600.00

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? (SELECT)

(If non-grant instruments are used, provide in Annex D and indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION**A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF¹**

There are no significant changes in the overall thrust and alignment of the Adaptation to Climate Change in the Coastal Zone in Vanuatu (V-CAP).

The following changes were identified during the PPG phase in relation to enhancing the engagement of communities to deliver the project arrangements:

- The proposed implementation period for the project was increased from 48 months to 60 months. This was based on the following considerations:

¹ For questions A.1 – A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter ‘NA’ after the respective question

- Recognition that the island communities the project will support are isolated, transport is difficult and with these challenges, it does take time to working with and mobilize both the elected and customary governance systems;
- Existing projects in Vanuatu reviewed during the PPG highlighted the need to allocate sufficient time to project implementation – particularly in working with communities in isolated islands;
- The longer approach allows V-CAP to adopt an adaptive management approach to delivery of the project.

The following changes were proposed during the PPG phase to the project Outcomes and Outputs:

- Community training and capacity building through vulnerability assessment and planning process is now integrated into Outcome 1.1 as it fits together well with community level resilience and adaptation planning to enhance. This has moved from outcome 3.2.2
- Outcome 3.2 focuses on building and mainstreaming national level and provincial level government agencies and their capacity to ensure integration of climate change adaption planning into the national and provincial planning processes.

The indicative co-financing in the PIF totaled US\$ 34,431,217. After further consultation with government and other co-financers during the development of the project document, the amount of co-financing has decreased to \$30,897,253 due to a decrease in the percentage allocation from the Australian funded Vanuatu Transport Sector Support Program due to a newer interpretation of co-financing.

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

The text from the PIF has been slightly further developed and is outlined below and in the agency PD. Additional strategies and plans of relevance have also been added. Please see Section 2.2 of the LDCF PD for further details.

A.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities.

The project is aligned (refer to Table A in Part I) with LDCF/SCCF focal area objective CCA-1 “Reduce vulnerability to the adverse impacts of climate change, including variability at local, national regional and global level” and objective CCA-2 “Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level”. The project will enhance adaptive capacity at the national level in terms of mainstreaming climate change considerations into relevant legislation and policy frameworks (outcome 3.1). At the local level, adaptive capacity will be promoted through the development of CC-adaptation and risk management and disaster preparedness plans (output 1.1.1) through participatory planning and management of the project. Vulnerable physical, natural and social assets will be protected by rehabilitating coastal ecosystems such as mangroves and by climate proofing important coastal infrastructure (outcome 1.2). With regard to CCA-2, awareness raising/training for various stakeholders and participatory approaches to climate change adaptation (outcomes 3.1, 3.2 and 4.1) will strengthen national, provincial and local level ownership of the project and encourage broad engagement in adaptation activities and risk reduction processes. In addition, it will document the successful adaption approaches and share these with other communities in V-CAP sites and wider Vanuatu. The installation of an early warning system and capacity building of national/provincial agencies involved in disaster risk management (outcome 2.1) will further reduce vulnerability in target communities and enhance adaptive capacity nationally.

A.3 The GEF agency’s comparative advantage:

UNDP is ideally positioned to support the Government of Vanuatu implement V-CAP through the National Implementation Modality (NIM). The project directly aligns the UN Development Assistance Framework (UNDAF) for Pacific Island Countries 2013-2017 by focusing on improved resilience, with particular focus on communities through implementing Strategic Focus Outcome 1: Environmental management, climate and disaster risk management, in support of an integrated approach to environmental sustainability and efforts by governments and communities to adapt to climate change and reduce and manage disaster risk.

UNDP is currently supporting the Government of Vanuatu in climate change adaptation through a number of projects. Firstly the Pacific Risk Resilience (PRR) program, which is assisting the Government develop appropriate governance mechanisms to support climate change adaptation and will operate from 2013-2017. Secondly UNDP plays an important role in supporting the UN Joint Project on “Community Resilience and Coping with Climate Change and Natural Disasters in Vanuatu, 2011 – 2013” which provided a range of lessons during the PPG design phase. Thirdly, the Government of Vanuatu is implementing the UNDP supported “Pacific Adaptation to Climate Change (PACC) Project” which works with communities on Epi Island on climate change adaptation. The V-CAP PPG team established links with each of these initiatives and identified suitable mechanisms for coordination and collaboration and to ensure no overlap in project delivery.

UNDP has a representation in Port Vila for the last 10 years and is assisting the Government in a number of other areas including governance and sustainable development themes. There are plans to strengthen the Vanuatu Program Office over the next few years with the appointment of additional staff. In addition to the climate change portfolio, UNDP has been supporting the Department of Environment Protection and Conservation in meeting global environmental agreements and assisting the countries in a range of capacity building exercises. UNDP has also implemented other GEF projects in Vanuatu. In addition, UNDP collaborates with Vanuatu Association of NGOs (VANGO) in the delivery of the Small Grant Program (SGP).

UNDP and the Government of Vanuatu have established strategic partnerships with programs such as the PWD and the Vanuatu Transport Sector support Program (VTSSP) in the delivery of infrastructure related components. The PWD planning and maintenance activities, VTSSP road rehabilitation and the V-CAP climate proofing of infrastructure will be developed in an integrated manner.

Support from UNDP for V-CAP implementation will be operational, administrative and technical in nature. The resident Vanuatu Program Officer in Vanuatu will interface on a regular basis with the Government of Vanuatu and the project team. The UNDP Fiji Multi Country Office based in Suva, Fiji will have primary responsibility for the provision and delivery of operational, administrative and technical support. The UNDP Asia Pacific Regional Centre in Bangkok will have dedicated Regional Technical Adviser to focus on supporting adaptation programming which will provide an additional layer of oversight. At the Global level, UNDP has a network of global Senior Technical Advisors to provide additional technical oversight and leadership to ensure UNDP activities achieve maximum impacts.

A.4 The baseline project and the problem that it seeks to address:

The PIF provided an elegant description of the baseline and the problems that it seeks to address. Thus, this section will focus on the additional information gathered during the PPG considerations to be included in the baseline and clarification of the problem. In summary:

Development context:

- The coastal zone is the hub of economic activities in Vanuatu. The vast majority of the population is concentrated in the narrow strip of the coastal zone with about 80% of the population in rural areas and engaging in subsistence, rain-fed agriculture on coastal plains and harvesting marine resources;
- The PPG confirmed coastal fisheries contribute significantly to food security, yet coastal fisheries and reefs are reducing due to increased fishing effort by many rural communities and increasing pressures, e.g. Crown-of-Thorn Seastars, sediment pollution on reef and decreasing water quality; these issues will be made worse under scenarios of increasing temperature and ocean acidity;
- The PPG confirmed that agriculture is being affected by diseases and pests with reports of up to 20-50% of crops reportedly lost, also a lack in the delivery of agricultural extension to communities is compounding this issue. This will become worse under the climate change scenarios;
- Coastal erosion is an issue in many locations. Causes are tectonic, human-induced and climate related issues. This needs to be urgently addressed – erosion will become worse under the climate change scenarios;
- Water supply – both quality and quantity - continues to be a critical issue which will become worse under the climate change scenarios;
- Communities’ livelihoods, access to basic services such as health services, education and markets depend upon “public conveyance” infrastructure. Often this infrastructure is being degraded by weather related issues. Climate proofing of this infrastructure by soft and hard measures will assist building resilience to climate change;
- High quality early warning systems will be critical for the future protection of communities in the face of severe weather which will become worse under the climate change scenarios.

Governance context

- The National Advisory Board (NAB) has been established and is now operational. Representatives on the NAB include key government agencies, development partners and NGO representatives. This has strengthened approaches to coordination of the delivery of DRR and climate change adaptation at the national level;
- The Project Management Unit (PMU) is the secretariat of NAB and is based in the Ministry for Climate Change Adaptation, Meteorology, Geo-hazards, Environment, Energy and Disaster Management. The PMU will be strengthened by V-CAP and will provide the links to the national level agencies to enhance coordination;
- Development partners such as GIZ, World Vision International, CARE, Red Cross and a range of other partners are active in rural communities. These partners are generating both useful approaches to community strengthening for climate change adaption and also developing adaptation technologies to strengthen community resilience. These will be scaled up through V-CAP in partnership with these development partners;
- A key institutional change is the Decentralisation Act (2006) and the Amendment to the Act (2013), which outline the roles and responsibilities of the local administration regarding decentralisation of service delivery across Vanuatu. The Department of Local Authorities (DLA) of the Ministry of Interior is responsible for implementing the Act and Amendment to this Act. The DLA is currently under resourced and lacks the capacity to drive implementation of the Decentralisation Act. V-CAP will seek to support and develop capacity of the Area Councils (ACs) in project sites through supporting planning, delivery and monitoring of local level integrated climate change adaptation solutions;
- The PPG identified that Vanuatu was still in the process of finalizing the 2010 a National Integrated Coastal Management Framework (NICMF) and Implementation Strategy with a vision towards a ‘clean and healthy coastal and marine environment for current and future generations...’. V-CAP will support finalization document under Outcome 3 to ensure which will be optimal as it will ensure smooth integration with Outcome 1 of V-CAP. It will allow the approaches adopted under Outcome 1

seeking to develop Coastal Community CC Adaptation Plans to influence elements to be included into the NICMF, in particular opportunities of ICM for planning of responses to manage the impacts of climate change.

Additional baselines

The LDCF project will build on the ongoing activities of selected baseline projects described below:

- Another additional baseline is the UNDP *Reducing Risk and Building Community Resilience in the Pacific* with the Government of Vanuatu with the support of AusAID. This regional program is seeing to support Disaster Risk Reduction (DRR) and CC-A considering their common focus of reducing vulnerability of communities, building resilience and contributing to mainstream sustainable development. Indicative support for Vanuatu will be to support governance initiatives for DRR and CC-A at the national, provincial and local levels. Two pilot studies being implemented by *Live and Learn Vanuatu* will inform the policy dialogues at national level approaches to climate change adaptation. Close collaboration has been identified between these two initiatives and synergies established. There will not be overlap – however complementary planning exercises will be undertaken. In particular it is anticipated that this project can assist the Government of Vanuatu in providing the enabling framework for integration of climate change into local level planning processes particularly in V-CAP Outcome 1.
- The Australian funded Vanuatu Transport Sector Support Program (VTSSP) is highly relevant to V-CAP implementation. The VTSSP assists the Government in responding to public pressure for rapid and tangible improvements in transport infrastructure, while also putting in place a longer-term program to ensure that transport infrastructure assets are maintained into the future. The aim of VTSSP is to improve the management of the transport sector; the quality of public expenditure management; the private sector’s role in delivery of some of these programs and to identify ways to support the transport system improvement in using labor force technologies. The maintenance of conveyance infrastructure continues to be a major challenge on islands without a permanent PWD presence. The PWD is currently working with the “Vanuatu Transport Sector Support Program” VTSSP (see below) to develop Island-based contractors (IBCs) from island-based businesses to assist with road maintenance in outer islands. However, this process is currently in the initial stages of development will apply to only a few of the V-CAP target sites.
- The *joint UNDP-UNICEF-FAO project*² also provides strong synergies and has informed the design of V-CAP – in particular understanding the challenges in working in 12 communities at the same time without a strong internal governance mechanism. The project is working in all six-provinces in Vanuatu with two sites in each province and is seeking to demonstrate enhanced short- and long-term community resilience and coping *capacity* to the adverse effects of climate change and natural disasters with special attention to women, children and vulnerable groups. Although scheduled to finish in 2014, should the project be extended there are a number of clear synergies.

² Only the UNDP-UNICEF components are counted as baseline co-finance.

A.5 Incremental / Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

Component 1: Integrated community approaches to climate change adaptation

Outcome 1: Integrated Community Approaches to Climate Change Adaptation

Co-financing amounts for Outcome 1:

GoV - PWD	\$ 14,000,000
GoV -DLA	\$ 2,200,000
GoV -Do Fisheries	\$ 1,080,341
GOV -DEPC	\$ 150,000
VANGO	\$ 74,000
AusAID (VTSSP2)	\$ 3,921,568

Estimated Total co-financing:	\$ 21,425,909
LDCF project grant requested:	\$ 6,000,000

Output 1.1 CC adaptation plans, including risk management, preparedness and response plans, formulated in the context of ICM and in relation to site-specific vulnerabilities, subsequently adopted and mainstreamed in planning processes

Baseline (without LDCF intervention)

Rural communities throughout Vanuatu, especially those based on “outer” or more remote islands are heavily dependent on subsistence practices for their livelihoods. The 2009 Census indicates that 76% percent of the country’s population resides in rural communities where approximately 90% of households consume home produce on a daily basis (from subsistence fishing, farming, hunting and livestock practices). Fishing is the second most important source of subsistence income after agriculture.

Limited capacity to deliver decentralized planning

The formation and recognition of Area Councils under the supervision of the Provincial Governments was enacted by the Vanuatu National Government through an Amendment to the Decentralization Act (2013) which was legislated during the First Extra-Ordinary sitting of the National Parliament in August 2013. These local Area Councils are “the grassroots bodies of government”, and are intended to have an immediate presence amongst rural communities, and will be allocated a limited budget to ensure that service delivery is more equitably distributed throughout rural Vanuatu. Area Councils will be comprised of villagers and community members living within identified AC boundaries including designated representatives for certain groups of people including chiefs, women and youth. While this is an important and potentially positive change in the delivery of government services for communities, there are substantial challenges in the development of implementation of this new policy approach. For instance, there is a lack of operational models regarding vertical and horizontal integration in planning processes and a significant lack of human resource capacity at all levels including local, provincial and national. As such, the Government will struggle with the delivery of this program in the upcoming years. V-CAP has an opportunity to assist the government throughout this transition to enable more holistic development planning and implementation with a strong on building local level resilience to climate change at the AC level.

At the provincial level, there is a lack of integrated holistic planning. Existing provincial plans often focus on infrastructure development and attracting investment and are developed in a top-down manner with little integration of community concerns. Most provinces reported to the PPG that they were in the

process of developing their next Provincial Strategic Plan, although two provincial governments had already created plans for the next 3-5 year period. However, these plans could be considerably strengthened through integration of climate change adaption approaches and methodologies.

There is also a lack of holistic planning at community level. There are a range of levels of planning occurring at the community level, often involving various chiefly councils, Community Disaster Committee (CDC's), Education Committees, Water Committees, etc., in V-CAP target communities. The majority of communities consulted did not have any formalized village level planning process. The same challenges regarding the lack of planning were present at Area Council level as well. In some communities, especially those where international NGOs were carrying out DRR activities, village level planning initiatives were taking place however they focused on specific themes, in particular DRR or water security and were not integrated or mainstreamed into an overall community planning process. Without additional resources focused on building community and Area Council capacity, the lack of integrated planning is likely to continue.

In many communities a wide range of existing committees exist including; Chiefly Committees, Community Disaster Committees, Water Management Committees, Education Committees, Women's Committees, Youth Committees, Health Committees, Church Committees etc. Often it is the same individuals who serve on these various committees and given this sector or topic-specific approach, opportunities for integration and for mainstreaming issues such as building climate change resilience are missed. As such, it is essential that an integrated approach to CCA planning is adopted to address climate issues from all perspectives.

At the Area Council level, the recent Amendment to the Decentralisation Act is in the process of being rolled out. This Amendment ties allocation of funds to the Local Area Councils for the specific implementation of actions within each AC's boundaries. Previous to this amendment, many communities had complained that certain ACs were neglected and rarely received government service delivery or even benefited from provincial government expenditure. However, the level of funding allocated to each Area Council is nominal (often in the range of US\$500 to \$5,000 per year) and in some cases such as the Torres Islands, is barely enough to meet the transport cost of the Area Secretary to visit each of the Islands in his jurisdiction 1-2 times / year.

Lack of expansion of pilot approaches from demonstration sites

There are a number of donor funded projects being implemented in rural communities aimed at addressing the effects of climate change which are delivered by government, non-state agencies and other development partners. Frequently these initiatives take the form of "pilots" or "demonstration projects" which are useful in addressing climate change related challenges at community level. For example, GIZ and their partners have developed over 15 different community-based adaptation tools and strategies through pilot initiatives. The GEF / World Bank project will be doing the same with support to the agricultural sector. However, scaling up is challenging given the limited resources available. As such, V-CAP provides a pivotal opportunity to upscale successful pilots for deployment in targeted communities.

The NDMO and a number of international NGO's (including CARE International, the Red Cross and World Vision International) are active in supporting the establishment of Community Disaster Committees in selected areas of Vanuatu and in the V-CAP sites. However, the concern was expressed by NDMO, its partners and by communities themselves about the need for ongoing community engagement after these plans are developed. A plan is of no use unless it is implemented. Implementation typically requires resources, such as training, pilot demonstrations and equipment as identified. As such, there is an opportunity for V-CAP to strengthen DRR planning processes to ensure the communities are aware of disaster plans and that these plans are regularly reviewed, updated and able to be implemented as needed in response to a situation requiring its implementation.

Adaptation alternatives (with LDCF intervention):

V-CAP will focus on the delivery of fully integrated approaches to coastal community adaptation that builds resilience to climate change in Area Councils in all six-provinces of Vanuatu. These sites will demonstrate fully integrated planning, implementation and monitoring processes from community to Area Council level, that are effectively linked with provincial development planning processes.

The V-CAP PPG team worked closely with the Government to select six target areas for V-CAP implementation of support to build CC resilience. This was based on a comprehensive site selection process as described above in Section 2.3 and Annex 5. Site selection was based on an initial site list (as outlined in the V-CAP PIF) which was further refined through screening with senior officials at the PPG Inception Workshop and finally through consultations with provincial and national authorities prior to, during and following site visits.

The assessment during the PPG phase for each target site included discussions with the province, district (in Shefa), ward (in Penama), representatives of all Local Area Councils, and villagers from each community within the targeted area. The list of consultations is provided in Annex 4.

The selected sites are outlined in the table below. A more detailed description of each site is contained in Annexes 6 and 7. Immediate beneficiaries are those individuals living in communities where V-CAP will support village and community level CC vulnerability planning. On the other hand, additional beneficiaries constitute those individuals from communities that will benefit from the intervention, e.g. will use rehabilitated roads to get to markets and to access health facilities.

Province	Shefa	Sanma	Penama	Tafea	Malampa	Torba
Island Grouping	Epi	Santo	Pentecost	Tafea Outer islands	Malekula	Torres
Area Councils (AC)	2 Area Council <ul style="list-style-type: none"> • Vermali • Vermaul 	2 Area Councils <ul style="list-style-type: none"> • South Santo 2 • South Santo 1 – small portion 	2 Area Council <ul style="list-style-type: none"> • Central Pentecost 2 • Central Pentecost 1 –small portion 	5 Area Councils <ul style="list-style-type: none"> • Aniwa, • Futuna • Aneityum • Erromango (2) 	1 Area Council <ul style="list-style-type: none"> • South Malekula 	1 Area Council <ul style="list-style-type: none"> • Torres
Site boundaries	West coast Road from Mavilao to Rovo Bay extending to catchment	Wailapa to Asevaia extending into the upper catchment, w Araki & Tangoa islands	East Coast of CP2 AC to ridge & West Coast, Bwatnapni of CP1 AC down to “Waterfall”	4 separate islands –with 1-2 Area Councils / island	Akam Island, Farun, Okai to Maskelyne / Vao islands	All islands within Torres Group
Villages / communities	5 communities in 10+ villages on one island	4 communities in 7 village on 3 islands	9 communities in 18 villages on one island	4 communities in 10 villages on 4 islands	5 communities in 7 villages on 4 islands	5 communities in 10 villages on 5 islands
Immediate Beneficiary	1,324	893	2,897	3,741	2,489	931
Additional Beneficiary	4,323	6,305	3,590	-	3,152	-
Total	5,647 2,835 – male 2,812 – female	7,198 3,692 – male 3,506 – female	6,487 3,240 – male 3,247 – female	3,741 1,878 – male 1,863 - female	5,641 2,838– male 2,803– female	931 440 – male 491– female

Major marine and coastal CCA threats	<ul style="list-style-type: none"> • Ecosystem degradation • COTs • Overfishing 	<ul style="list-style-type: none"> • Ecosystem degradation • Water pollution • Overfishing • 	<ul style="list-style-type: none"> • Ecosystem degradation • Water pollution • Overfishing • COTS 	<ul style="list-style-type: none"> • Ecosystem degradation • Overfishing • COTS 	<ul style="list-style-type: none"> • Coastal erosion • Overfishing • COTS • MPA / CCA support 	<ul style="list-style-type: none"> • Species management • Overfishing • MPA / CCA support
Major upland CCA threats	<ul style="list-style-type: none"> • Water supply • Erosion • Sediment run-off • Marine and coastal • Agriculture diseases 	<ul style="list-style-type: none"> • Severe erosion • Upland erosion and water quality • Agriculture diseases 	<ul style="list-style-type: none"> • Severe erosion • Upland erosion and water quality • Agriculture diseases • WASH 	<ul style="list-style-type: none"> • Severe erosion • Upland erosion and water quality • Agriculture diseases and introduced pests 	<ul style="list-style-type: none"> • Severe erosion • Water quality • Agriculture diseases • Increasing population / relocation 	<ul style="list-style-type: none"> • Upland erosion and water quality • Agriculture diseases • Alien species / pests
Major investments for climate proofing of infrastructure	<ul style="list-style-type: none"> • Roads • Bridges • Water crossings • Water supply and WASH 	<ul style="list-style-type: none"> • Pedestrian crossings on major roads 	<ul style="list-style-type: none"> • Road rehabilitation • Major rehabilitation of walking tracks 	<ul style="list-style-type: none"> • Climate proofing of walking tracks 	<ul style="list-style-type: none"> • Rehabilitation of road linkage from main road o Okai 	<ul style="list-style-type: none"> • Water catchment needed

V-CAP will build upon the initial vulnerability assessments conducted during the PPG to support village-based CCA planning through a more detailed vulnerability assessment process. This will form the basis for detailed and holistic CCA planning and implementation to be integrated into village level development planning. Vulnerability assessments will focus on identifying the key risks facing communities in relation to CC and build upon the PPG baselines as outlined in Annex 7.³ Based on the results of these assessments, a comprehensive Community Coastal Climate Change Adaptation Strategy (CCCCADS) will be developed which includes risk management, preparedness and response. The CCCCADS will clearly identify issues, threats, opportunities and proposed solutions to address the impacts of CC in each community. These plans will be developed with the active engagement of the chiefly system, area secretaries, village and church leaders and the wider community, including women and youth representatives. This Strategy will form the overall basis of development planning at the village level.

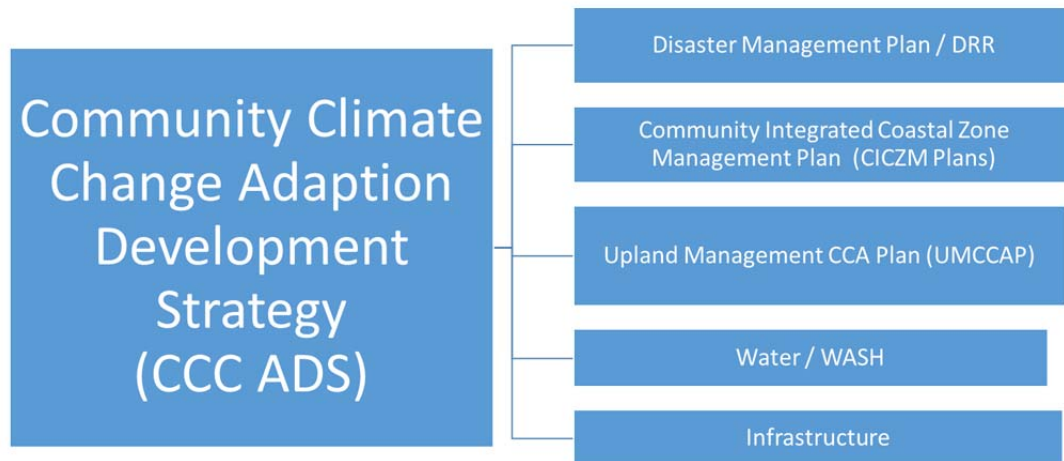
At the village level, Community Disaster Committees (CDC's) — grassroots level committees recognized by the national government through the National Disaster Management Office — will be utilized to integrate CCA components to the community's existing Disaster Risk Reduction (DRR plans. Similarly, the Water Committee will be linked to provide inputs into Water Plans.

The CCCAD Strategy will be developed in a holistic manner to address both the threats to climate change on the natural resources that communities depend upon, and will focus on a number of different elements including upland management, management of water and water sources, coastal and marine area management, DRR and management of infrastructure. In some villages physical planning to address

³ The vulnerability assessments will be informed by the baseline profiles completed during the PPG phase of V-CAP.

household and community infrastructure in areas classified as highly vulnerable to CC will also be undertaken.

The holistic planning process used to develop CCCAD Strategies will also address the need to link with the village committees to ensure an integrated community development approach. Because CCCAD Strategies will be developed with specific targets, indicators and outputs to ensure their effective delivery, this will serve to build the capacity of other local committees whose members participate in CCCADS planning processes.



At the AC level, technical support will be provided to the Local Area Council, with a specific focus on building the capacity of the Local Area Secretary, to develop an Area Council Climate Change Adaption Strategy (AC CCCADS). This Area Council wide Strategy will be developed through an integrated “bottom-up” process and will be based on the priorities developed through the CCCAD Strategies and individual plans for the various sectors and outlined in 1.2.1 and 1.2.2 below. It will also be necessary to train additional people to build in redundancy in the event that the Area Secretaries change.

The development of the AC CCCADS will inform the allocation of funds provided to the Area Council through the Province allocated under the Amendment to the Decentralisation Act 2013. It will provide clear plans for the use of the funds and will also inform other development partners of funding priorities in targeted communities.

Outcome 1.2 Improved climate resilience of coastal areas through integrated approaches

The development of a fully integrated approach to enhancing resilience of communities and the land, coastal and marine resources, and related infrastructure will be highlighted as elements of the overall CCADS. However, V-CAP will provide support to mobilise this broader strategy into a series of “Plans” to ensure the development of resilience in three main areas. This will be achieved through the development and implementation of activities to address three specific sets of outputs. Each output, the baseline without and with LDCF Intervention and the activities to support the output are outlined below.

Output 1.2.1 Threatened coastal ecosystems and resources such as mangroves, coral reefs, and fisheries rehabilitated to support livelihoods and food production and increase climate resilience.

Without LDCF/SCCF Intervention (baseline):

The coastal waters and associated resources of Vanuatu are very important resources for the country; they are critical to the economy, to food security and livelihoods for much of the nation particularly in rural areas. Approximately 70% of the population of Vanuatu is located within the coastal zone. In addition, these areas contain a wealth of important biodiversity. Yet, these resources are being rapidly degraded by a variety of different causes.

Physical damage to coastal and marine ecosystems

Crown of Thorns Seastars (COTS) prey on coral and coral reefs and were identified as a major issue in five of the six target communities. COTS are having a severe impact on coral reef health and are suggested to have become more prolific with time due to an unbalance in the marine food chain due to an increase in the harvesting of predators, such as tritons snails. In addition, changes in water quality and high nutrient levels due to runoff from land may also enhance breeding success. There are limited examples of COTS removal efforts by communities. Without intervention, numbers of COTS are likely to continue to increase and continue to degrade coral reefs, further reducing both reef productivity and resilience to CC.

Village consultations and field observations highlighted the issues associated with the increase in sediment loads. The associated issues with high sediment loads are sediment deposits on coral reefs, seagrass and mangroves, and an increase in turbidity of coastal waters. These sediment loads are due to unsustainable land management such as grazing livestock on steep slopes, slash and burn farming and logging. While this is currently an issue for much of coastal Vanuatu, it will likely be made worse by CC due to an increased intensity of the rainy seasons.

Overharvesting of marine and coastal resources

All communities consulted during the PPG phase reported a reduction in coastal and marine fish catch and fish size due to overfishing. According to the Department of Fisheries, approximately 75% of Vanuatu's coastal population is engaged in fishing, so given the increasing population more people are fishing in coastal waters than ever before. The depletion of fish populations and size is particularly threatening given the potential impacts of CC.

Mangroves play a critical role as fish nurseries and for coastline protection. Mangroves are being cut in some locations (e.g. Southeast Malekula) for fuel and to provide boat access to the coast. This is reducing the ability of mangroves to protect the coast and erosion of the coast is resulting in some locations.

There are no mangrove management plans in place in the target sites (although in Crab Bay, East Malekula, IUCN is working with the government to support models of sustainable mangrove management). The laws regarding mangrove management are in need of review which is currently being considered by the DoE. In Aniwa, an invasive marine crab has been identified which is impacting the mangrove roots in the lagoon.

Most beaches observed in project areas are being mined for sand for use in local and regional construction projects. Removal of the fine sand lowers the beaches and reduces its ability to protected coastal villages and infrastructure. In many cases this has led to enhanced beach erosion. The impact of sand mining will be made much worse by CC, in particular coastal floods, storm surges and king tide inundation.

Lack of integrated planning for fisheries and coastal management

The Draft National Integrated Coastal Zone Management Framework (NICZMF) was developed in 2010 to guide management of coastal and marine areas. The vision of the NICZF is to provide a sustainable approach to coastal management through establishing institutional arrangements and involving relevant stakeholders in implementation of management activities. The responsibilities for overseeing the implementation of the NICZF are shared between the Departments of Environment, Fisheries, Forestry, Agriculture, Lands, Geology, Mines and Rural Water Supply with the Department of the Environment

taking the lead role in implementation. However the NICFZ remains as a draft and without additional support is unlikely to be finalized.

The NICFZ will be crucial in addressing climate change in the coastal zone. The NICFZ acknowledges the Decentralisation Act, stating Provinces will provide local level government system support and become an integral part of the implementation process. However, at community, Area Council and provincial levels the PPG team was not made aware that this framework is being used as part of any planning process. Given the limited resources and capacity building needs requirements for effective implementation, it is unlikely that the NICZF will be comprehensively tested or piloted in the near future.

In Vanuatu, coastal and marine resources are generally owned according to chiefly land tenure systems and management based on traditional approaches. However, the increasing population and transition to a cash economy is placing increasing pressure on marine and coastal resources. The significant lack of government fisheries extension officers (only a few of the islands visited had fisheries officers, and there was very limited support to the Area Councils and local communities) and other extension workers engaged at community level is impeding the potential for more forward-looking and comprehensive coastal fisheries management.

Almost all villages and communities consulted during the PPG phase identified “*tabu*” areas (traditional fisheries management areas which are opened and closed at various times) that encompass coral reefs, mangroves, seagrass beds and open water. Typically, *tabu* areas are small in size and periodically opened for fishing activities (known as “*kustom fishing*”). The management regimes of these areas varied from location to location based on the views and directives of the local chief. Although it is recognized that closing an area for a period of time may enhance the catch from the area when it is opened for harvesting, the long-term fisheries and biodiversity conservation benefits of this approach are unclear. Establishing management objectives and fishing gear restrictions, combined with “no-take” zones will most likely be more beneficial in building resilience in the long term. The *tabu* areas could make a much more valuable contribution to fisheries resource management and provide greater conservation value if communities managing these areas received additional assistance in planning, training, enforcement and monitoring and evaluation.

The best example of marine resource management noted by the PPG team was in Okai, Southeast Malekula. Okai is part of an informal conservation network with four sites identified and recognized as Community Conservation Areas (also referred to as Marine Protected Areas) and linked to the network of Locally Managed Marine Areas (LMMA) in the Pacific. Community Conservation Areas benefit from current management techniques including longer periods of closure and government assistance in monitoring and evaluation, e.g. Reefcheck. These practices aid in biodiversity conservation and fish population size. This informal network of CCAs hopes to further develop — similar to the networks established at Pele Island, North Tanna and Crab Bay in Malekula. V-CAP will further develop and support this network and similar other systems in project sites.

The PPG mission noted the on-the-ground presence of the Vanuatu Turtle Monitoring Network supported by the Department of Fisheries and an NGO called *Wan Smol Bag* in many of the target sites. This important network is enhancing community understanding of turtle conservation, and although some communities stated that they continue to eat turtles and their eggs, this practice appeared to be declining. Turtle Monitors are involved in the permission to harvest process and in some cases have the authority to ticket individuals for harvesting turtles. However, their work is severely hampered by lack of resources and their ability to service networks.

Some communities raised concerns over the increasing number of dugongs, particularly in Southeast Malekula, with some people suggesting the need to cull dugongs were necessary. It is vital that a management regime be established to protect and manage this flagship species which also serve as an important indicator of ecosystem resilience to CC.

With LDCF/SCCF intervention (adaptation alternative)

The LDCF intervention will focus on the establishment of Community Integrated Coastal Zone Management Plans (CICZM Plans) at village and Area Council levels to enhance resilience of coastal ecosystems to climate change. The Plan will focus on building resilience to climate change through a number of measures. These include ecosystem based management of fisheries resources through; enhancement management of sacred sites and traditional tabu areas; establishment of additional tabu areas, CCAs and conservation networks, and through additional fisheries management tools including gear restrictions.

A comprehensive baseline survey will inform the development of the CICZM Plans, which will focus on establishing baselines for marine ecosystem health, identifying breeding and recruitment areas and opportunities which will contribute to longer-term zoning for effective management of the sites. This baseline survey will be undertaken again in year five of the project to identify the impacts of the project on the quality of the marine and coastal ecosystems. Note: baseline surveys (year 1 and year 5) are not quick-and-dirty assessments and will require significant effort (e.g., stock assessment, mapping). Baseline surveys must be adapted (site-specifics) as all target sites will not share the same issues/priorities. This will guide site-level implementation and will also be reported back to the project team based in Port Vila. These baselines will be vital in establishment of a national approach to measuring the impact of climate change in Vanuatu.

Trainings will be provided to communities to introduce a simplified methodology for the monitoring ecosystem health. This will be based on existing Reefcheck approaches currently in use in Vanuatu. The CICZM Plans will outline a long-term community-based monitoring plan, and evaluation of the data will be undertaken by the DOF together with local communities.

A specific intervention will be the removal of COTs recognized as one of the major threats and obstacles in building marine eco-system resilience. This will be achieved through a program to actively involve communities, particularly the youth, in the removal of COTs through establishment of sustainable long-term incentives.

The CICZM Plans will also outline a comprehensive education and outreach program for fishers (men, women and youth) on marine and coastal zone management. This outreach plan will link with and build upon the ongoing work of the Turtle Monitoring Network.

The Climate Change Field Officer appointed at each site to oversee implementation and coordination of coastal and marine V-CAP interventions. Their role will include development and facilitation of community outreach, support in development of CICZM Plans and deployment of training to engage the community. The Field Officer will also partake in the identification of priority communities to create LMMA and tabu plans.

The implementing partners for activities related to Output 1.2.1, will be the Department of Fisheries with additional support from Wan Smol Bag. Wan Smol Bag is a civil society based in Vanuatu that has created an extensive network of turtle and wildlife monitors.

V-CAP will also facilitate the establishment of links with the *Locally Managed Marine Area Network*, a network on communities practicing management of traditional “tabu” areas throughout the Pacific. This network has substantial experience in the development of community engagement in coastal zone management and the establishment of local fishery regimes. Interactions with this network will enhance capacity building and sharing between community approach in Vanuatu and other Pacific Island Countries. Additionally, V-CAP will maintain and support the linkages created with IRD – a French Government research agency that is providing vital support to the Department of Fisheries in the development of science to support the ongoing efforts for fisheries management.

Enhancing ecosystem resilience to climate change in the coastal areas will have additional benefits including an increase in the coverage of marine conservation areas in Vanuatu. The benefits associated with this include increases biodiversity, ecosystem resilience and increased fish populations through active breeding grounds, nurseries, and feeding areas. As marine conservation areas grow, the fish population in protected areas will spill over into the non-protected areas, thus improving the abundance of fish available for harvest.

Province/ Site	Proposed CCA Measures
South Malekula Malampa Province -	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Crown-of-Thorns Seastar removal • Mangrove management plans • Species management plans for dugongs • Installation of FADs • Upland management measures implemented to reduce sediment run-off into marine systems (link to 1.2.2.)
Central Pentecost Penama Province	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Crown-of-Thorns Seastar removal • Installation of FADs • Upland management measures implemented to reduce sediment run-off into marine systems
South Santo Sanma Province /	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Management of upland water quality issues (link to 1.2.2.) • Upland management measures implemented to reduce sediment run-off into marine systems
North-west Epi Island Shefa Province /	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Crown-of-Thorns Seastar removal • Installation of FADs • Upland management measures implemented to reduce sediment run-off into marine systems (link to 1.2.2.)
Tafea Outer islands - Tafea Province	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Crown-of-Thorns Seastar removal • Installation of FADs • Upland management measures implemented to reduce sediment run-off into marine systems
Torres Group Torba Province -	<ul style="list-style-type: none"> • Development of Community Integrated Coastal Zone Management Plans • Establishment of MPAs / CCAs • Species management plans for key species, including coconut crabs • Installation of FADs

V-CAP will also develop synergies, or networks, with the existing marine resource management projects within Vanuatu. These projects currently operate under the Ministry of Fisheries and Wan Smol Bag. Lessons learned from the management of these areas will be applicable to other LMMAs in Vanuatu. Furthermore, the lessons learned from creating a chain of linked LMMAs and tabu areas within a single area will serve as guide for future projects in Vanuatu in their efforts to enhance resilience to CC.

Output 1.2.2 Coastal areas stabilized through re-vegetation and other ‘soft’ approaches to complement ‘hard’ measures

In the context of small island systems, the V-CAP PPG considered the definition of “coastal areas” as all land within a catchment that drains into targeted coastal waters. In the majority of targeted sites, the landowners and communities responsible for coastal management are the same owners (or closely related) for adjacent upland areas. Additionally, the drainage areas in the uplands areas have a direct interaction with the V-CAP target coastal areas. Thus, an integrated “Ridge to Reef” approach is the most suitable approach for the delivery of V-CAP. Currently none of the project sites visited during the PPG have terrestrial upland or coastal land-use management plans.

Without V-CAP intervention there will continue to be a substantial disconnect between the management of the land and the sea, and any opportunities for development of a comprehensive approach will be not be implemented in the foreseeable future. The challenges of climate change will impact on both systems and the interaction between these systems needs to be addressed in the context of climate change.

Without LDCF/SCCF intervention (baseline):

One of the greatest challenges in upland management is the management of topsoil and sediment being washed from the upland and coastal area into the nearshore and marine systems. The range of activities that impact on these systems are outlined below:

Forestry and deforestation

Deforestation is occurring in most of the targeted communities and is one of the most serious environmental challenges in each of the V-CAP sites and also in wider island management in Vanuatu. There are a variety of reasons for the deforestation including the need to harvest timber to meet building supply which often targets old growth forest, the creation of additional areas for agriculture and growing populations requiring larger land areas. There is also logging in some locations for exporting to Port Vila and beyond. Significantly, deforestation has resulted in a loss of soil stability, increased runoff and has impacted on groundwater recharge. There is an urgent need to provide alternatives to the exploitation of old-growth forest, including forestry lots, seedlings and enhancement of agricultural practices.

Agriculture and environment

Agriculture is the largest source of income in Vanuatu. The vast majority of the population is located in rural areas where the majority of households depend on agriculture for income and food security. Farming practices generating the most sediment include slash and burn farming, livestock grazing on steep slopes, and deforestation. In addition to increasing sediment run-off to coastal waters these processes also degrade the soil and create a loss of top soil.

In most target sites, shifting cultivation agricultural practices are resulting in high levels of sediment run-off, in particular from traditional shifting garden cultivation. These farming practices involve clearing vegetation through cutting and fire. Additionally, shifting cultivation and accelerating crop rotation has created additional sediment generation issues. There are practices that can reduce the sediment load such as farming on land with low gradient; planting erosion reduction species (e.g. vetiver grasses), and leaving a buffer between water courses and agricultural lands (e.g. riparian vegetation) that are currently not being promoted by agriculture officials or being implemented by communities.

In Vanuatu, livestock are a valuable source of income for rural communities and for larger scale commercial operations. Often cattle are associated with copra plantations which cover large tracks of

Vanuatu. As the price of copra decreases more livestock are roaming the forest in an uncontrolled manner. On steep slopes the livestock cause hill-slope erosion, coastal erosion and increase landslide potential.

Pigs, both domesticated and wild, are very popular in Vanuatu, and present a number of challenges. Pigs were observed to disturb topsoil creating erosion in a number of the targeted sites. In addition, in some villages pigs were farmed upstream/upslope of villages. In some villages the waste from these pigs is transported through with storm rain resulting in unsanitary conditions for village residents. In addition, uncontrolled goats are causing severe erosion problems in some areas (e.g. Aniwa Island) which is leading to increased coastal erosion and a loss of large amounts of top soil.

Agriculture and horticulture – seasonality and crop diseases

Communities in all target sites reported a range of challenges in relation to agriculture, particularly with regard to pests and diseases on crops. On average, communities reported that 10-30% of crops are being lost as a result of pests and diseases, but in some cases they reported up to a 70% spoilage factor. Communities also reported they are receiving no extension services from the Department of Agriculture or related agencies in addressing this issue. The reasons for the extent of this problem are unclear but may be related to introduced crops and diseases (e.g. lap-lap leaf disease) or changes in agricultural practices (e.g. higher cropping densities, or climate related (e.g. wet weather fosters rot which makes plants weaker and more vulnerable). As a result of these agricultural issues communities reported times of food shortages. The increasing population has created the need for increased garden size which has resulted in clearing additional forest. This has severe implications for sustainable land management and a number of communities, particularly women, identified this issue as their highest priority.

Local communities variously reported their perceptions of changing weather patterns on crop harvests. Many of the coastal communities interviewed voiced concerns over crop damage due to seasonal shifts associated, possibly associated with El Niño patterns. There was also a high concern over crops being unable to withstand the environmental changes, i.e. increased temperature, changing rainfall, droughts, etc., associated with CC.

Water, supply, quality and quantity

Provision of secure and adequate water supply was one of the highest priorities reported to the PPG team by almost all communities. Water resources in targeted sites include rainwater harvesting, groundwater, and surface water sources piped to central points in villages. Most communities identified water scarcity at some times of the year, particularly towards the end of the dry season, lack of supply following extreme events (e.g. cyclones and storms) and salinization of groundwater. It is highly likely that all of these issues will be exacerbated by CC. There are limited government resources to address these water issues, and islands such as Aniwa have declared water “emergencies” in recent years. On Akam Island, stakeholders reported that children do not attend school on Wednesday’s during the dry season as they spend that day, with their teachers collecting water for home use.

The Water Resources Division is currently under pressure to increase provision of water supply to rural communities however, it is not adequately staffed and currently has substantial burden on its scarce resources due to the scale of national need and the additional demands of donor projects. As a result, many communities in the targeted areas are in urgent need of additional technical and financial support.

Livestock often have open access to streams and rivers, and their waste introduces high amounts of nitrogen into the surface water systems with resulting algal growth and decline in water quality. The nitrogen loads can create eutrophic conditions both in the streams and coastal waters, killing fish, and harming the ecosystem.

Land-use planning

Land-use planning in V-CAP sites is typically undertaken by customary owners through traditional management regimes. However, due to overpopulation and linked to challenges associated with sea-level rise, some communities reported to the PPG team that they were considering relocating (e.g. one coastal village in Epi Island and a number of communities in South Malekula). This has obvious implications for management and utilization of terrestrial resources and the lack of land-use planning and provision of associated government services will exacerbate this future issue.

At this point there are no terrestrial conservation areas in the V-CAP sites – although a number of upland areas are managed in customary practices.

In relation to coastal vegetation, its removal for infrastructure, i.e. houses and roads, as impacted upon its ability to hold coastal sands intact and prevent erosion. This is compounded by the removal of sand from beaches. Without planned interventions to address this issue, erosion will continue to be a problem and will become much worse under the climate change scenarios.

With LDCF/SCCF intervention (adaptation alternative)

The LDCF intervention will focus on the establishment of an Upland Management CCA Plan (UMCCAP) at village and Area Council levels to enhance resilience of landward elements of coastal ecosystems to climate change. The Plan will address aspects of coastal and watershed management.

A comprehensive baseline survey will inform the development of the UMCCAP, which will focus on establishing baselines in relation to locations of erosion, water sources, riparian vegetation, water sources and their management, resource management, and conservation areas (both traditional and formally recognized). This baseline survey will be undertaken again in year five of the project to identify the impacts of the project on the quality of the coast lines, sediment production, water services, and erosion in relation to their contribution to enhancing resilience to climate change.

The UMCCAPs will outline a comprehensive extension and outreach program for farmers (including men, women and youth) on land management and climate resilient agricultural practices. Additionally, climate resistance crops and erosion control plants (e.g. vetiver grass and bamboo) will be disseminated to all communities. The planning of erosion control species will form part of the “softer measures” for addressing maintenance of infrastructure. The UMCCAPs will also articulate specific plans for managing water resources and creating terrestrial conservation areas in sites where this is required.

Trainings will be provided to communities to improve knowledge regarding sustainable land management and erosion reduction, as well as WASH. Where necessary, specific interventions will also be undertaken to address issues of unsanitary conditions due to livestock.

Field Officers will be appointed in selected target sites to oversee implementation and coordination of land management V-CAP interventions. Their role will involve development and facilitation of community outreach initiatives; support to communities in developing UMCCAP, and organization of training sessions. Extension services will also be provided by the extension staff of the Department of Agriculture, Farm Support Association and agricultural research center in Santo. Topics for training and extension will include climate change, erosion control species and climate resistant crops. Further, Field Officers will assist in creating terrestrial conservation plans and overseeing water resource projects.

The proposed activities are outlined in the table below. For a more detailed discussion of the proposed adaption activities at each site please see the site summaries in the project document.

Province/ Site	Proposed CCA Measures
North-west Epi Island Shefa Province	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management enhanced to minimize sediment flow into waterways and coastal environments • Enhancing water supply quality and security – in particular linked to DRM plans • Tree planting to ensure coastal protection and reduction in erosion from sea-level rise
South Santo Sanma Province	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices • Support efforts for protection of riparian vegetation from cattle grazing • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management measures enhanced to minimize nutrient flow into waterways and coastal environments • Enhancing water supply and security – in particular linked to DRM plans • Tree planting to ensure coastal protection and reduction in erosion from sea-level rise
Central Pentecost Penama Province	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management enhanced to minimize sediment flow into waterways and coastal environments • Enhancing water supply – in particular linked to DRM plans • Tree planting to ensure coastal protection and reduction in erosion from sea-level rise
Tafea Outer islands - Tafea Province	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management enhanced to minimize sediment flow into waterways and coastal environments • Enhancing water supply – in particular linked to DRM plans • Identification of terrestrial CCAs • Tree planting to ensure coastal protection and reduction in erosion from sea-level rise
South Malekula Malampa Province -	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management enhanced to minimize sediment flow into waterways and coastal environments • Enhancing water supply – in particular linked to DRM plans • Identification of terrestrial CCAs • Intensive tree planting to ensure coastal protection and reduction in erosion from sea-level rise
Torres Group	<ul style="list-style-type: none"> • Development of Upland Management CCA Plan • Extension in climate change resilient crops and agricultural practices

Torba Province -	<ul style="list-style-type: none"> • Tree planting to ensure coastal protection and reduction in erosion from sea-level rise • Identification of erosion hotspots and “soft” erosion control measures in upland areas and • Upland management enhanced to minimize sediment flow into waterways and coastal environments • Enhancing water supply and WASH – in particular linked to DRM plans
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Enhancing the management of land and surface water will also aid in community farming and coastal fishing. Decreasing sediment generation and erosion, securing crops and water management, and conserving terrestrial resources will create more climate change resilient coastal communities. Lessons learned from the management of these areas activities/areas will be highly relevant to other communities in Vanuatu and can serve as a guide for replication in future projects.

Output 1.2.3 Improved resilience through climate proofing of selected public conveyance infrastructure in the coastal zone in at least 6 priority vulnerable coastal communities

Without LDCF/SCCF intervention (baseline):

The “public conveyance infrastructure” as used in the terms of V-CAP refers not only to roads and vehicular transport, but also to pedestrian walking paths that connect to the main roads and also to pedestrian river crossings that occur on the main roads. Public conveyance infrastructure is the infrastructure that provides linkages between communities and services and markets, e.g. health centers, schools and markets.

The PPG mission learnt of a number of deaths and challenges for communities due to weaknesses and inadequacy in the public conveyance infrastructure. This ranges from women having to travel on treacherous seas for up to 3 hours during problems in child birth; through to the dangers on many of the community constructed paths and walkways with bridges and river crossings; through to the river crossing on the main roads where there are reports of children being washed away.

Climate change will present a number of challenges to this public conveyance infrastructure. Unsealed walking paths and trails are a source of erosion which will become worse under droughts, additional rains and changes in seasonality. There may be increased landslides. Water flows in river crossings will become more unpredictable.

The Public Works Department (PWD) of the Ministry of Infrastructure and Public Utilities (MIPW) is responsible for the construction, management and maintenance of road and public conveyance infrastructure in Vanuatu. With villages spread out over 80 islands, the PWD faces enormous challenges in meeting the needs of communities throughout Vanuatu, especially given its’ limited human and financial resources.

The PWD has plants, equipment and staff stationed in each provincial capital. For ease of access their works tend to focus on these main islands with smaller outer islands being served on an as-needed basis. For example the last time PWD carried out works on Epi Island was in 1998 when large equipment was transported by barge to the island and removed once this work was completed.

The maintenance of conveyance infrastructure continues to be a major challenge on islands without a permanent PWD presence. The PWD is currently working with the “Vanuatu Transport Sector Support Program” VTSSP (see below) to develop Island-based contractors (IBCs) from island-based businesses

to assist with road maintenance in outer islands. However, this process is currently in the initial stages of development will apply to only a few of the V-CAP target sites.

In a number of the V-CAP sites, e.g. Epi Island and South Malekula, the degradation of road surfaces and bridges is not primarily due to vehicle usage but rather, is weather related. This weather related degradation of roads includes erosion from rain and storm events, small landslides, and drainage issues. Therefore, “soft maintenance” solutions such as erosion control, improved drainage and quick repair following storms etc. will ensure much greater longevity of public conveyance infrastructure.

The Australian funded VTSSP is highly relevant to V-CAP implementation. The VTSSP assists the Government in responding to public pressure for rapid and tangible improvements in transport infrastructure, while also putting in place a longer-term program to ensure that transport infrastructure assets are maintained into the future. The aim of VTSSP is to improve the management of the transport sector; the quality of public expenditure management; the private sector’s role in delivery of some of these programs and to identify ways to support the transport system improvement in using labor force technologies.

There is also a proposed Chinese funded road program to be undertaken in some islands. However, the full details of the proposed interventions were not available during the PPG mission and will need to be accessed during the Inception Phase of the project to avoid duplication of efforts and ensure complementarity between the initiatives.

A high priority concern of several communities consulted relates to dangerous river crossings. Communities reported significant health and safety issues after periods of sudden, heavy or prolonged periods of rain. Although rehabilitated river crossings are suitable for vehicles, communities reported that numerous children have died or been injured en route to/from schools while attempting to cross rivers and streams that fill quickly with water (within hours) and become impassable. The same has occurred when people have tried to access gardens and health centers during the wet season. Government health and education personnel confirmed these reports and also noted that children frequently miss a significant amount of school when river levels are high and dangerous. Given climate change projections for increased precipitation, heavy rainfall and severe storms, it is expected that river crossing will become increasingly dangerous leading to further injuries, loss of life and restricted access to public services.

With LDCF/SCCF intervention (adaptation alternative)

The activities in this component make use of both soft and hard interventions and are designed to increase resilience (i.e. reducing vulnerability) of public conveyance infrastructure to the impacts of CC through strengthening natural, built, social, and governance systems. All of these elements are essential in the long-term maintenance of public conveyance infrastructure.

Hard engineering options on roads and walking paths will be used to correct drainage systems, stabilize hard infrastructure against erosion and collapsing of side-banks, bridge rehabilitation (including river protection to stop erosion and undermining), and pedestrian river crossings, foot bridges and major pathways. These hard engineering options will rehabilitate and strengthen existing infrastructure systems that were in the past constructed by communities, government or a partnership between both.

Softer engineering options were identified together with local communities and included slope stabilization of roads and walkways through planting with vetiver grass and bamboo, and the stabilization of the coast through the planting of mangroves, coastal vegetation and related species. Communities in all sites expressed their commitment to undertaking these activities through specific activities identified under 1.2.2 as outlined above.

V-CAP interventions will modify vulnerability in these areas by minimizing exposure to water related damage and will enable communities to continue to use conveyance infrastructure for increased periods of time (whether road or pedestrian crossings) even in times of extraordinary rain and flooding (within

safety considerations). Communities during the PPG consultations indicated their willingness to assist in monitoring the maintenance needs for the infrastructure and identification of suitable arrangements for the communities to play a role in the maintenance.

V-CAP will also build upon and support VTSSP implementation through a range of integrated activities including erosion control and supporting climate proofing of investments by providing incremental funding for construction that integrates future climate change projections (e.g. providing larger drains for extreme rainfall events, and ensuring river banks are stabilized).

Through discussion with PWD and VTSSP managers, it was also agreed that walkways and river crossings are essential to the health and socio-economic well-being of coastal communities. Given resource restrictions, PWD is unable to assume responsibility for secondary roads, pedestrian river crossings and footpaths but indicated their support for V-CAP to fund this infrastructure where warranted. However, it was stressed that these crossings should be managed at the local level with communities and Area Councils assuming responsibility for construction and maintenance of any new infrastructure. This self-help strategy is in line with the V-CAP approach to sustainable solutions and provides an excellent opportunity to engage youth enrolled in Rural Training Centre (RTCs) construction courses and to develop linkages in Area Council Strategic Plans.

While the concepts outlined in this section are based on PPG discussions with local communities, provincial authorities and PWD and represent clear alternatives to the current baseline situation, further consultation will be required with target communities during the Inception Phase of the project. In particular, locally appropriate decisions will be required in relation to siting, design and long-term management. More detailed discussions with communities will also serve to build local ownership and ensure community members are willing to accept management and maintenance responsibilities.

As such, V-CAP will support, through PWD, a number of specific public conveyance interventions include footbridges, river bank stabilization, erosion control, rehabilitation of creek bed crossings and bridge development (Epi Island). A more complete description of the proposed activities, including detailed designs and are attached in site descriptions in Annex 7.

A summary of proposed interventions are indicated in the table below. Please see annex 7 for a more detailed description of the proposed activities.

Province/ Site	Proposed CCA Measures
North-west Epi Island Shefa Province	<ul style="list-style-type: none"> • Rehabilitation of road stream, crossings • Road climate proofing and rehabilitation of concrete alignment in sensitive areas • Bridge climate proofing and rehabilitation • Soft erosion measures (1.2.2)
South Santo Sanma Province /	<ul style="list-style-type: none"> • 4 pedestrian stream crossing • Soft erosion measures (1.2.2) • Bank stabilization
Central Pentecost Penama Province	<ul style="list-style-type: none"> • Pedestrian stream crossings • Road climate proofing and rehabilitation
Tafea Outer islands - Tafea Province	<ul style="list-style-type: none"> • Climate proofing of water storage infrastructure
South Malekula Malampa Province -	<ul style="list-style-type: none"> • Road climate proofing and rehabilitation
Torres Group Torba Province -	<ul style="list-style-type: none"> • Climate proofing of village infrastructure

Component 2: Information and early warning systems on coastal hazards

Outcome 2.1: Reduced exposure to flood-related risks and hazards in the target coastal communities.

Co-financing amounts for Outcome 2.1:

VMGD	\$ 840,000
JICA	\$ 3,000,000
UN Joint	\$ 100,000
PRRP	\$ 300,000

Indicative co-financing	\$ 4,240,000
LDCF project grant requested:	\$ 1,000,000

The draft *VMGD Early Warning System and Warning Dissemination Strategy (2013)*, supported by the PHRD/ World Bank *Mainstreaming Disaster Risk Reduction (MDRR)* Project, provides a clear roadmap to implementation of dual strategy approach for implementation of the Early Warning System for the next 5 years by VMGD. The two main strategies to be implemented are:

- i. *Early Warning System Strategy (Information from hazards source to hazards analysis)*
Based on the monitoring of climate change and natural hazards, VMGD will improve their real-time data network. This emphasises of this data network will be earthquakes, volcanoes, cyclones, quick flooding, tsunamis and climate-related hazards monitoring
- ii. *Warning Dissemination System Strategy (Information from hazards analysis to the general public)*
Based on the dissemination of the information to the public, VMGD and NDMO need to improve their automatic alert and emergency system to the general public.

The development of this strategy has provided the opportunity for development partners to clearly identify, coordinate and integrate their support to the implementation of the strategy. Some of the clear commitments to the implementation of this strategy include:

- The World Bank MDRR Project will focus on the creation of a complete Tsunami Warning System for the two most important urban areas of Vanuatu, i.e. Port Vila and Santo. No monitoring system will be funded with this project. Support will be provided to the Vanuatu National Warning Centre, the VMGD for the warning strategy and a complete set of warning dissemination tools for urban areas only (sirens, evacuation maps and signage, media broadcast for urban areas);
- The LDCF-funded World Bank IRCCNH Project will focus on the reduction of volcanic hazards impacts in Torba and Tafea provinces. The VMGD Volcanic Hazards Monitoring System will be funded and Volcanoes Contingency Plans will be developed for these two provinces only. The warning dissemination systems will be made through the development of two Provincial Disaster Centres in Tafea and Torba Provincial capitals; and
- The JICA Project “*Strengthening of VMGD Hazards Monitoring Capacities*” focuses on increasing VMGD capacities regarding early warning systems for earthquakes and tsunamis through the installation of 3 seismic monitoring stations and 3 tides gauges. In addition, early warning systems for severe weather in the major population centres will be enhanced through with the installation of 2 automatic weather stations, one at each of the two main Airports (Port-

Vila Bauerfield and Luganville Pekoa). No warning dissemination system will be funded with this project.

V-CAP will support and fund an important part of the VMGD Early Warning and Warning Dissemination Strategy through:

- i. The installation of 5 Automated Weather Stations (AWS) at each existing weather observation sites (when added to the 2 JICA's AWS - the National Vanuatu network will be complete)
- ii. The creation of a dedicated Warning Dissemination System to the most important and vulnerable areas of Vanuatu with the installation of an automatic broadcast system in every provincial office, every Observation sites and in the targeted communities of this project

Baseline (without LDCF intervention):

The overarching goal of this component is to ensure the Vanuatu economy can continue to grow in full cognizance of natural hazards risks. Appropriate and sufficient warning systems, supported by appropriate planning, will enhance national resilience and ensure that relevant public and private sector agencies can respond in a timely manner to future emergencies thereby minimizing damage, loss of life and the cost of recovery. The current lack of an integrated automated system for monitoring of climate-related hazards such as coastal flooding, storm surges and sea-level rise, and the timely release of early warnings against coastal flooding and storm surges through various public media to the “last mile” were reviewed in detail during the PPG⁴ⁱ

The development of a complete end-to-end climate-related hazards Early Warning System would place VMGD on a higher level regarding climate hazard resilience. Currently the old and unreliable system is mainly based on a voice communication system for monitoring; and the deployment of the warning dissemination system is patchy and does not reach communities outside radio and/or telephone coverage.

Weaknesses in automated system for monitoring climate-related hazards

All activities related to forecasting climate-related hazards in Vanuatu are managed by the Weather Forecast and Observation Division (WFOD) of the VMGD. The WFOD primary function is to provide short and medium term weather forecasts to the aviation and marine sectors as well as to the public. The Division also provides warnings for severe weather events, in particular tropical cyclones and flash flooding. It is also responsible for tsunami advisories to the public in Vanuatu. This Division provides the following list of services to the public on an hourly, daily and weekly basis:

Public Forecasts

- Hourly images, uploaded on the Met. Website;
- Mean Sea Level Pressure Charts, issued every 6 hours;
- Public Forecast via local Radio and FM station outlets, issued every 4 hours;
- Day Provincial Forecast via the website, updated 3 times a day;
- 7 Day forecast for provincial centers updated 2 times a day;
- Forecast Policy, updated 2 times a day;
- Vanuatu Cities Forecast, issued once a day; and

⁴ (see Assessment and Evaluation Report of the Vanuatu Meteorology and Geohazards Department Early Warning System, 2013).

- 7 Day forecast for Weekly IPV and Independent Newspaper and daily forecast for Daily Post Newspaper.

Marine Forecasts

- 4 Day Marine Forecast, including wave and swell height, issued 2 times a day. The marine forecast covers six boundaries: The Northern Waters, the Central Waters, the channel between Efate and Erromango, the Southern Waters, and Port Vila and Luganville Harbor;
- Strong Wind Warning when warranted;
- High Seas Forecast Covering Area from 12S to 23S and from 160E to 175E; and
- High Seas Warning during Tropical Cyclone events.

Aviation Forecasts

- Terminal Aerodrome Forecast (TAF) issued every 4 hours;
- Area Forecast issued every 4 hours;
- Route Forecast for Air Vanuatu; and
- Trend Type Forecast for the three international Aerodromes NVSS, NVVV and NVVW.

Weather Warnings

- Coastal Marine wind warning, issued every 6 hours;
- High Seas Wind Warning covering Area 12S to 23S, 160E to 175E;
- Tropical Cyclone five Day outlook, issued 2 times a day;
- Tropical Cyclone information, advisories and warnings;
- Tropical Cyclone Forecast Track Map, indicating the past track and the 48 hour forecast track for current tropical cyclones affecting Vanuatu;
- Tsunami information and advisories;
- Severe weather warnings issued for rainfall of 100mm/day (or more) and inland winds of 40km/h (or more); and
- Severe weather outlook for the next 3 days. The severe weather outlook covers rainfall, inland winds and winds over the coastal waters of Vanuatu.

Unfortunately the number of reports issued, is perhaps not the best measure of the reality of the data accuracy and quality. All those bulletins and information, which reflect very good internal Standard Operating Procedures, are sometimes inaccurate because there are “gaps” in data collection or missing synoptic weather information. Although VMGD installed a Quality Management System (QMS) in June 2012, reliability and data consistency are sometimes poor due to the manual collection of information in the field, then relying on radio to transmit the data to Port Vila. Often there is “radio transmission system failure” (power failure, bad weather influencing poor radio transmission system, system failure) or unavailability of local observers (each VMGD observation site is managed by 2 VMGD Observers who are working 24/7) leading to significant gaps in data. This situation is often worse in periods of severe weather events – when this data is most needed! In line with the *VMGD Early Warning and Warning Dissemination Strategy*, the addition of an Automated Weather System Network will strengthen the VMGD capacity on the seasonal forecast on both short-term monitoring, through WFOD, and long-term monitoring through the Climate Division. Part of both the V-CAP initiative and JICA Project (“*Strengthening of VMGD Hazards Monitoring Capacities*”) this Automated Weather Monitoring Network will be the crucial element in implementing a successful and complete Early Warning System on climate-related hazards.

Lack of Meteorological Automated System

Currently meteorological information is managed through the WFOD which currently operates a network of 7 stations which are monitored 24 hours a day, 7 days each week with two staff manning each station. The current stations are located at:

- Bauerfield Airport (Efate Island)
- Pekoa Airport (Santo Island)
- Lamap (Malekula Island)
- Seratamata (Ambae Island)
- Whitegrass Airport (Tanna Island)
- Sola (Vanua Lava Island)
- Anelcahat (Aneityum Island).

Data from each meteorological station on the outer islands is recorded and then transmitted by voice to Port Vila via HF radio every hour. This data is then relayed electronically to the global meteorological communications

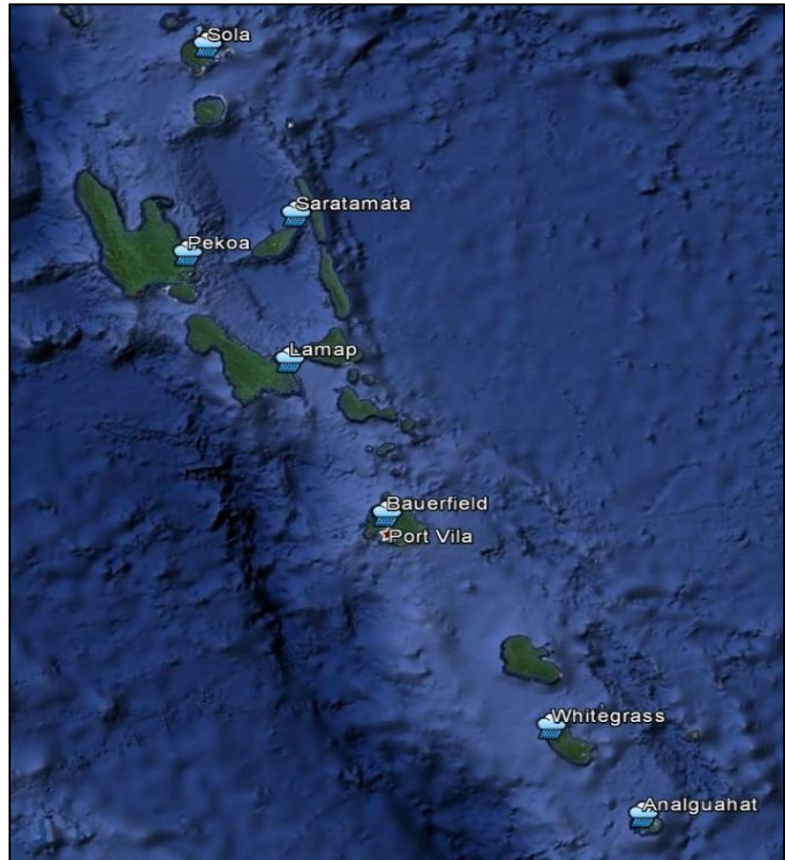
network for inclusion in current meteorological regional models which are generated by regional processing centers. The data is then returned to the VMGD in the form of forecast models, alongside other information, in order to develop local forecasts bulletins.

There is a risk that the lack of an accurate synoptic weather station may have a huge impact on the development of regional forecast models. Information such as wind speed and wind direction, atmospheric pressure, temperature, rainfall, cloud cover and other relevant data need to be obtained regularly from as many observation locations as possible to ensure accuracy of the models. Each missing observation reduces the accuracy of the forecasts and thus it is essential to have reliable automated and real-time transmission to obtain accurate information in a timely way. The challenge is to identify a suitable mechanism to reliably transmit all the relevant synoptic information from these seven meteorological observing stations back to Port-Vila as the current HF communications systems between them are old and unreliable.

Meteorological real-time transmission limitation

The only two-way communications system between the seven stations and the Meteorological Centre in Port-Vila is HF radio. This system is old and unreliable, especially in times of severe weather events and requires upgrading to a more trustworthy solution, especially in the northern and southern part of Vanuatu where HF transmission is often cut due to power failure. This system need to be replaced by a more reliable technology with strong redundancy especially during extreme weather events.

The proposed solution is the use of the government proprietary network. In fact, in 2010 the Vanuatu Government built their own data transmission network from north to south called the Global Broadband Network or “eGov Network”. This system, which is reliable, fast and redundant, is already used by the Geohazards Division for real-time monitoring of volcanic and seismic activity in Ambrym, Santo, Gaua,



Tanna and Ambae Islands. This system has already proven its reliability and will reinforce the positive relationship between VMGD and the Office of the Government Chief Information Officer (OGCIO). The maintenance of this system will be assured by the government itself through the OGCIO.

Real-time data analysis limitation

Currently, the Climate Division, responsible of the long term climate-related hazards analysis, and the Weather Forecast Division, responsible of the short-medium term severe weather data analysis are not sufficiently equipped to handle and process real-time data. This limitation could lead to inaccurate meteorological data analysis thereby having a huge impact on regional weather models. On the long-term data analysis, the Vanuatu Climate Division which is responsible for archiving data, conducting data analysis and for applied research on regional climate evolution is suffering from a lack of proper equipment. Rainfall collector's information and manual synoptic data are entered into CliDe database but without proper capacity in data analysis the regional Simulation Climate Scenario (SIMClim) used is inaccurate. In relation to short-term data analysis, the Vanuatu Weather Forecast Division is suffering of lack of real-time software for synoptic data analysis. Currently data collected is processed manually every hour, there are issues with quality control procedures when manual data is formatted following the meteorological international standard format (SYNOP and METAR). These systems could be improved by automated data treatment and Synoptic Data Treatment Software as recommended by WMO standard procedures.

Absence of timely release of early warnings on climate-related hazards

Lack of real-time warning dissemination information

Currently the pathways of release of **early warning bulletins** from the NDMO's *National Emergency Operation Centre* in Port Vila to the VMGD's *National Warning Centre*, then to the local communities are paved with communication difficulties. The warning dissemination strategy of both NDMO and VMGD is to focus on the transmission of the information first to each provincial disaster committee, and it is their responsibility to relay the information to the targeted local disaster committee. However, there are issues with this system and in practice there is currently no efficient global warning dissemination system. Local initiatives, often led by NGO (e.g. Red Cross and their HF Radio Information Transmission Network) are trying to fill this gap in certain areas, for example in the isolated island group of Torres.

The local VMGD weather observers are all part of Technical Advisory Groups for the Disaster Risk Reduction initiative in each province. Moreover, these observers are also serving as relays to local communities in times of extreme weather events by transmitting information from Port-Vila to the local stations through HF radio. As indicated previously, this communication system is not reliable, especially in times of weather crisis. The need to reinforce real-time exchange information between Port Vila VMGD, provincial centers and local communities was identified during the V-CAP PPG.

Real-time broadcast information limitations

The flash-flooding that struck the Island of Paama (October 2013) and cyclone Vania that hit the island of Tanna (January 2011) have shown the importance of having effective advisory/information/ warning dissemination. While rural communities are fairly self-resilient in obtaining basic weather information, the Vanuatu Government needs to implement a consistent and reliable real-time warning dissemination program to reduce vulnerability associated with increasingly serious climate-related hazards.

Currently the only way to broadcast warning information is via public/private media (television, radio) and through active dialogues with mobile network service operators. At the moment there is no automated climate-related hazards warning system in use in Vanuatu. Part of the end-to-end Early Warning System, the warning dissemination framework needs to be automatized to provide updated information directly to communities, particularly those in isolated areas without access to phones, radio and other services. Provincial centers, major airports (dependent for safety on identification of climate-related hazards), local

warning centers (mostly local weather observer offices) and targeted communities need to be linked into this dissemination system.

Adaptation alternatives (with LDCF intervention):

NDMO and VMGD are responsible for public safety during natural disasters; they also assess threats to local populations based on the best available information, and when appropriate disseminate safety information and instructions. Along with the following actions, this comprises an “End-to-End” EWS response:

- The monitoring and warning service (to develop hazards monitoring and early warning services);
- The alert dissemination (to communicate risk information and early warnings);
- The emergency response (to build national and community response capabilities); and
- The government and public action (to systematically collect data and undertake risk assessments).

Under this component, LDCF resources will be invested in an end-to-end EWS to improve the capacity of the entire nation to prepare for and respond to the projected increase in climate-related hazards. Firstly, V-CAP will strengthen monitoring capacities of WFOD with the installation of 5 Automatic Weather Stations in the focal islands. This development will be made in parallel with the JICA funded “Strengthening of VMGD Hazards Monitoring Capacities” project which will support the installation of two high quality AWS in Bauerfield and Pekoa Airports to complement the 5 stations funded by V-CAP resources. Together, those two investments will enhance the ability of VMGD to deliver their mission of climate-related hazards monitoring.

Secondly, investments will be made by reinforcing the VMGD Hazards Warning Dissemination facilities and providing additional analysis systems to ensure that outer island communities are warned of short, medium and long-term climate hazard impacts. By strengthening the two-way communications systems between outer islands and Meteorological Main Office in Port-Vila, by installing various warning dissemination system in outer islands and by reinforcing the VMGD capacities in real-time weather data analysis, the LDCF resources will finalize the second part of this end-to-end warning system

Finally, to strengthen VMGD capacities LDCF will invest in capacity building of VMGD WFOD and VMGD Climate Division by strengthening internal capacity for real-time analysis of climate-related hazards.

The installation of 5 AWS, two-way communications and the warning dissemination system will be undertaken in the first two years of project implementation to ensure that VMGD staff has maximum time to learn and benefit from operational and maintenance training on the complete end-to-end system.

The outputs and activities are presented below:

Output 2.1.1 Automated system for real time monitoring of climate-related hazards such as coastal flooding, storm surges, sea-level rise designed, installed and maintained

LDCF resources will be used to set up a complete end-to-end Climate-related hazard Early Warning System. The initial investment is the monitoring system which includes an Automated Weather Station Network of 7 stations spread from North to South Vanuatu to replace the existing VMGD weather synoptic network. Local observers will be trained to ensure proper servicing and maintenance of each AWS. Standard Operating Procedures and Job Descriptions will be reviewed in order to reflect new staff roles and responsibilities as local VMGD agents. This automatic system, linked in real-time to the main Meteorological Office in Port-Vila, will considerably extend the capacities of VMGD Weather Forecast Officers and strengthen the development of regional forecast models. The benefits to this investment can be summarized as follows:

Improved Vanuatu Meteorological Automated System

For the benefit of better weather synoptic data, the installation of the Automatic Weather Station will be carried out in the five existing weather observations sites including: Tanna (Whitegrass), Ambae (Saratamata), Malekula (Lamap), Vanua Lava (Sola) and Aneityum (Analguahat). These sites are currently manually controlled and managed by local VMGD staff. The stations are comprised of: Anemometer; Relative Humidity and Air Temperature sensor; Atmospheric Pressure; Rain gauge; Solar Radiation; Soil Moisture, and Earth Temperature. Attached to the weather control system and IP transmission system, this AWS will procure reliable and constant data to the main Meteorological Office in Port Vila every minute at no cost. This system is robust and trustworthy, supports extreme weather condition and will require little maintenance to work efficiently in remote outer island stations.



Automated Weather Station for 5 remote outer islands

To increase existing monitoring capacity at Bauerfield and Pekoa Meteorological Offices, two automatic ceilometer stations will be installed. These ceilometers will monitor cloud coverage and provide consistent weather data information. It will also provide an additional more detailed baseline for the measuring the change in weather systems in these locations as local indicators of climate change.



Automated Ceilometer Station for the 2 main meteorological airport offices

Improvement of the real-time transmission network

Reliable Early Warning Systems require a robust real time transmission network. Utilizing the Vanuatu Government Broadband Network, weather data will be transmitted to the Port-Vila main office in a timely manner. Based on the high speed government IP network the Vanuatu Broadband Network links every provincial office to Port-Vila at no additional cost. LDCF resources will be invested to provide the connection from all Automatic Weather Stations to Port-Vila using the Vanuatu Government Network. This transmission architecture will comprise two components:

- i): Link from Automatic Weather Station to the closest eGov tower using a dedicated transmission system (900 Mhz or 2.4 Ghz); and
- ii) Link from each eGov tower to the Port-Vila Meteorological Office via existing government network. V-CAP will purchase a dedicated inter-connection system between the eGov tower equipment and the VMGD dedicated private transmission system in each province where eGov towers are located.

Increase in meteorological data analysis capacities of VMGD

To enhance analysis of automatic weather synoptic data by VMGD Staff, technical support in the form of on-site (premises of the VMGD) advanced training by existing meteorological expert partners (e.g. NZ MetService, BOM, Meteo-France etc.) will be provided. For the short-term data analysis, weather forecast division will be equipped with Meteorological Display Software and server for data collection and data storage. For the long-term data analysis, climate division will be equipped with new software (Met-Display II, Met Analysis, GTS) and appropriate hardware, e.g. computers, to analyse in real-time the synoptic information coming from AWS.

It is proposed that installation of the equipment for the improvement of the real-time transmission network will be carried out by the Vanuatu Meteorological and Geohazards Department who are experienced with the proposed equipment. Installation of each Automatic Weather Station will require a Meteorological Expert; a short term consultant will be recruited to supervise these activities.

Output 2.1.2 Timely releases of early warnings related to coastal flooding and storm surges through various public media

LDCF resource will be used to create a Warning Dissemination System comprised of an automated message dissemination system and a provincial/community level climate-related warning display information system. While the telephone system is a useful process, in many outer island project sites, there is limited, if any coverage by the existing networks. As a result, project targeted communities will be equipped with an HF based alarm system to expand upon a demonstration of HF radio Warning Dissemination Systems already installed by the Red Cross in isolated island communities in Torres Island group.

Improvement of the real-time warning dissemination information

Currently, the NDMO works closely with provincial and local disaster communities to relay warning information. However, no efficient warning dissemination system has been developed as yet. A SMS-based system is currently being tested by NDMO in some local communities but this solution is not yet validated, nor will it reach all targeted communities. However, V-CAP will support its implementation through the provision of high-quality information and early warnings as appropriate.

In addition, V-CAP will support the live display of climate-related hazards Information/Advisory/Warning in key strategic locations in Vanuatu. These include:

- Warning Display Information on each six (6) provinces
- Warning Display Information on each five (5) outer islands weather stations
- Warning Display Information on each two (2) major Vanuatu airports.

This Warning Display Information System will be comprised of:

- A set of screens which will display live information (bulletin/warning/information) coming from VMGD and updated as often as possible
- A set of communication devices (VOIP phone, IP Radio and Live Camera) using the Vanuatu Government Broadband Network capacity, and
- Robust computers for local warning centers.

Increase of the real-time broadcast information capacity

The Warning Display Information needs to be consistent and reliable. Depending on the targeted area/province, specific information could be presented for that location (e.g. a cyclone warning message may vary depending on the cyclone track and volcanic hazards impacts may be restricted to certain areas). A Display Management System would then have to be developed at VMGD to regulate and manage the warning information display on each outer island.

In order to develop the Display Management System and Automated Warning Dissemination System, an international consultant will be appointed for 9 months to manage this process.

Information/Advisory/Warning data should be automatically updated to the specific area using the two-way communication channels (Broadband Network) developed for Output 2.1.1. Dedicated software will be developed (or purchased) to enable continuous information update to the targeted Warning Dissemination Station 24/7.

Output 2.1.3 Capacity of VMGD and NDMO national and provincial officers in the operation and maintenance of AWS and in the analysis of data strengthened

Implementation of the first two outputs will require strong capacity building support for both VMGD Weather Forecast and Observation Divisions. The installation and maintenance of the Automated Weather System will be supported by an international meteorological expert who will work with and build capacity in local staff from outer islands (12 staff) and four technicians/engineers from the Port-Vila Meteorological Office.

It is proposed that these staff members undertake intensive training in the use of meteorological display and climate-related hazards software for forecast officers as well during the installation of these systems. Training on the Real-Time transmission system will be carried out by VMGD who have experience with the proposed architecture. Training will include workshops, in-field training and simulation exercises for all VMGD technical officers (currently 18 staff) and NDMO officers.

The final activity of this output concerns the use and maintenance of the dedicated Automated Warning Dissemination System developed specifically for VMGD for the purpose of the warning dissemination to each outer station. This training will be carried out by the international consultant responsible for deployment of the dedicated Automated Warning Dissemination System.

Component 3: Climate Change Governance

UN Joint Project	UNDP-FAO-UNICEF	\$	300,000
Pacific Risk Resilience – UNDP		\$	800,000
Indicative co-financing		\$	1,100,000
LDCF project grant requested:		\$	300,000

Outcome 3.1 Climate change adaptation enabling policies and supportive institutions in place

Output 3.1.1 Legislation and national/sector policies with impacts on CCA reviewed and a policy reform agenda developed and implemented (e.g., finalization of draft National CC Policy; incorporation of CC into the EIA Policy, and sector policies in forestry, coastal fisheries, agriculture, water and sanitation; localization of existing policies).

Baseline (without LDCF intervention)

Currently there are numerous government policies, plans and frameworks that address climate and disaster risk in Vanuatu. In 2008, revisions were made to the *Vanuatu Priority Action Agenda* (PAA) to include climate change and disaster risk reduction directives. A draft *National Climate Change and Disaster Risk Reduction Policy* is currently being developed. When this work is finalized, the government has indicated they will then focus on reviewing the findings from the *Risk Governance Assessment Report*. The *National Action Plan (NAP) on Disaster Risk Reduction and Disaster Management 2006 – 2016*, was reviewed in 2010 and a revised set of priorities was established for work beyond 2011.

Although the *Priority Action Agenda* emphasizes the need to integrate CCA into the various policies and plans, most departments have struggled to implement this action plan within their scope of services. The Department of Education and the Department of Forestry are mainstreaming the CCA agenda into their policies and have commenced implementation with support from development partners. However, other departments do not have clear policy documents from which to incorporate CCA components and most line agencies will require technical assistance to complete the mainstreaming process.

The NAB provides as a useful mechanism for national level integration of environment and climate change related policies and plans. The UNDP Pacific Risk Resilience Project recently undertook a comprehensive review of the NAB and the governance framework for CC in Vanuatu and highlighted the strengths and weaknesses in the current system. The results, in an internal NAB document titled *Risk Governance Assessment Report* contain a highly relevant analysis of climate change governance issues in Vanuatu.

There are a number of policies and plans that are in urgent need of integration of CC into the relevant planning frameworks. For example, the Draft *National Integrated Coastal Management Framework* (NICZMF) and Implementation Strategy for Vanuatu, in draft form since 2010 has yet to be finalized. Without intervention it is unlikely that the government will be able to identify resources for a process towards its completion. In addition, there is an opportunity for this document to form the basis for a structured approach to coastal adaptation planning for climate change and in addition could be significantly strengthened by incorporating field experiences gained during implementation of V-CAP. However, without the support of V-CAP it is unlikely to be completed.

Additionally, the Environmental Impact Assessment (EIA) legislation and policy currently has limited scope for the integration of climate change into its application. With the coastal zone as the focal area for development in Vanuatu, including port, tourism and industrial infrastructure, it is vitally important that the EIA related policies and guidance recognize the implications of climate change, in particular the

impact of a 1 meter (or more) sea-level rise on coastal infrastructure. Without additional support development will continue without taking into account full cognizance of the impacts of climate change.

The National Climate Change Adaptation Strategy for Land-Based Resources (2012 – 2022) Second Draft has been developed and provides useful guidance in the incorporation of climate change into management of land-based resources. This strategy is currently being incorporated into sectoral policies and plans.

The Department of Agriculture has embarked on a process of revising the national agriculture policy and process for delivery of appropriate services at the community level. This plan will be developed during the period 2014-2015. Without specific interventions on integration of CC related concerns into the plan – it is unlikely that they will be comprehensively addressed.

Adaptation alternatives (with LDCF intervention):

As a first step, V-CAP will provide assistance to NAB to continue the process of “stock-taking” national initiatives seeking to integrate CC into departmental/sector policies, plans and procedures. The results of this stock-take will then be used to inform specific tasks for V-CAP follow-up. The identification of CCA policies that require supportive legislation from the Government of Vanuatu will also be identified in the V-CAP funded stock-take, with legislative TA identified as necessary.

The finalization of the NICZMF and Implementation Strategy drafted in 2010 will be critical to the implementation of V-CAP. It provides the overarching framework for delivery of coastal CCA solutions for Vanuatu. Thus, V-CAP has a clear role to ensure its finalization and to support field testing of its implementation. The DEPC and DOF have committed to support this process.

Those government departments or sectors operating without a cohesive CCA integration policy, as well as those agencies with ineffectual or outdated policies and procedures will also have access to a limited pool of V-CAP funded TA to contribute to the integration of CCA into policies, procedures and/or plans. These policies and plans will include an analysis of gender and social inclusion factors and the requirements for mainstreaming and/or targeted interventions to address equity issues.

Environmental Impact Assessment legislation and policy needs to be urgently updated to ensure that CCA is incorporated into its application. The development pressures on the coastal zone will continue to increase, thus making the incorporation of climate change adaptation considerations essential to the EIA process. Additionally, there is a natural fit between the development of the NICZMF and the revision of the EIA legislation to incorporate climate change.

In addition, specific policies and plans identified during the PPG for support include the Agricultural Policy planned for review in 2004-15. Given the reliance of rural communities on agriculture and the current issues, i.e. disease, low production and pests, it is vital that climate change adaptation is integrated into this policy. V-CAP will provide some limited support to this process and will work with other development partners to ensure that comprehensive solutions to agricultural issues are available to communities for deployment through existing systems.

Support provided by V-CAP in creating department and sector wide approaches to CCA will allow the Vanuatu government to implement a cohesive approach to service delivery - with follow-up support and supervision by the NAB, a wide range of potentially adverse effects of CC will be successfully mitigated.

Lessons learned from CCA policy development activities will be shared with relevant government agencies and development partners to enhance knowledge of CC integration options and practices, as well as to build capacity in cross-cutting policy development.

OUTCOME 3.2 Human resources in place at the national, provincial and community levels

Output 3.2.1 Capacity building of key national and provincial government agencies (DEPC, PWD, Department of Internal Affairs, Departments of Fisheries, Forestry, Water) in areas of compliance and enforcement, monitoring and evaluation and mainstreaming of climate-related policies and regulations.

Baseline (without LDCF intervention)

Building the human resource capacity of the Government of Vanuatu to effectively implement CCA activities is a task delegated to the recently created Ministry of Climate Change. Currently however, there is no systematic process in place to assess and/or develop skill sets required for successful mainstreaming and operation of CCA/DRR strategies. Many relevant government departments working with CCA have identified the need for capacity building and training to expand and supplement support being provided by external and regional agencies – particularly in relation to policy and integrated planning.

The 2013 UNDP Pacific Risk Resilience Project carried out a comprehensive review of the Government of Vanuatu’s human resource capacities, information management systems, knowledge management and monitoring and evaluation (M&E) approaches as they relate to achieving CCA and DRR objectives. This report contains an analysis which is highly applicable to V-CAP Output 3.2.1 and is available to the NAB and its partners for review.

There is no effective *Monitoring and Evaluation system* in place to assist the Government in providing useful information and lessons learned from CCA activities. At present there is little, if any, performance feedback on government programs during or following implementation, which leads to unresolved issues that negatively affect program outcomes. This absence of good quality information arising from the lack of functional M&E serves to limit the government’s progress toward evidence-based policy making. As a result, some CC/DRR achievements are not recognized by Government and lessons learned from projects are not adequately disseminated to prevent replication of errors.

In 2008, the Vanuatu Government established an M&E Unit within the Prime Minister’s Office (PMO) to work with Sector Policy Analysts within the Department of Strategic Policy and Planning and Aid Coordination, with Expenditure Analysts within the Ministry of Finance and Economic Management, and with line Ministries to monitor implementation of government programmes and activities. This Unit provides reports to the Council of Ministers and the Office of the Prime Minister, but it doesn’t provide information or report to the PMU or NAB on CCA or DRR initiatives.

The successful implementation of V-CAP will rely on building the M&E competency of government officials at national, provincial and local level to gather and analyse data on project activities and outcomes and to draw out and share lessons learned from V-CAP activities.

Adaptation alternatives (with LDCF intervention):

V-CAP will support government departments and other implementing agencies, including International NGO’s working in the field of CCA, to standardize their data collection systems. V-CAP will work through existing networks to bring relevant stakeholders together to mainstream processes, facilitate development of common M&E approaches and build internal capacity rather than depending on external sources. The TA required to establish and strengthen existing M&E systems will be provided under V-CAP.

V-CAP will work with partners to develop harmonized data collection systems to lead to greater efficiency in implementing CCA measures by government departments and relevant NGOs. It will also allow for internally sourced capacity building, as there will be a greater understanding of the effective CCA programs and techniques currently being administered within Vanuatu. In this way, replication and expansion of successful CCA projects will be easier. In addition, V-CAP will provide comprehensive

training to government officers, field staff and development partners to ensure appropriate implementation at each V-CAP field site in conjunction with Component 1. This will include both on-site and cross-site training.

Output 3.2.2 Communities empowered to deal with climate change impacts in the coastal zone through participatory approaches in vulnerability assessments, planning and community-based adaptation measures and capacity building

Baseline (without LDCF intervention)

There are no CC vulnerability assessments or CCA plans in most communities in Vanuatu. Further, the M&E capacity of local governance structures including Area Councils, which primarily consist of community-based representatives, are extremely limited. There is also a significant lack of formal institutional structure at local level for effective planning of adaptation measures. Without V-CAP assistance, target communities will not benefit from participatory vulnerability assessments nor would they be likely to act on their own to successfully mitigate the adverse impacts of CC.

Despite this lack of capacity, communities and Area Councils are being asked to develop and implement a range of policies and plans at village level. This currently includes the formulation of community disaster committees (CDCs), water committees, educational and health committees and fisheries groups. Often the same few individuals are members of all of these communities which means they do not have sufficient time to meaningfully contribute. There is an urgent need to streamline the operation of these committees to ensure they are effective and guided by an overall plan that is supported by sub-committees and technical assistance as needed.

Adaptation alternatives (with LDCF intervention):

Within V-CAP target sites, community level structures similar to CDC's will be established and supported to competently conduct vulnerability assessments, CC Strategies and Plans, based on adequate knowledge of CC issues and adaptation measures. Vulnerability assessments with a specific focus on CCA and DRR will be administered at V-CAP sites, which can subsequently be replicated in communities throughout Vanuatu. The participatory process involved in undertaking these assessments and planning adaptive measures will empower local communities to create CCA plans that are unique to their specific challenges and vulnerabilities.

The Community Climate Change Adaptation Strategy (CCCAS) will form the basis of a comprehensive community development plan for each targeted community. Sub-plans will also be developed under this plan including community disaster response plans, water management, upland management and coastal management plans. V-CAP will support the DLA to develop an integrated structure that will also serve as a guide when working with local communities and groups.

A cohesive capacity building program involving CDC and Area Council representatives will take place to ensure that there is a mainstreamed approach to CCA throughout all six V-CAP's sites. Supporting representatives from the various V-CAP communities to visit and learn from relevant and successful initiatives in other parts of Vanuatu will facilitate replication and knowledge sharing.

Component 4: Knowledge management

GoV DEPC		\$	100,000
UN Joint Project	UNDP-FAO-UNICEF	\$	331,344
Pacific Risk Resilience – UNDP		\$	600,000
<hr/>			
Indicative co-financing		\$	1,031,344
LDCF project grant requested:		\$	350,000

Outcome 4.1 Increased awareness and ownership of climate risk reduction processes at the national and local levels.

Increasing awareness and ownership for climate risk reduction processes is a critical component of V-CAP. It will be important to ensure that capacity is developed simultaneously at community, area council, provincial and national level. This will result in a well-planned and integrated approach built on the results on a thorough needs assessment of the various target groups.

Baseline (without LDCF intervention):

Government agencies, civil society organizations (including NGOs and churches) and donor partner projects have made significant progress in improving public understanding of climate change issues and impacts through use of a wide range of teaching/learning strategies. Successful techniques have included radio shows, television programs, newspaper articles, video/films, school curriculum, numerous activities held during national climate change weeks, production and distribution of IEC materials etc. However, many of these activities have focused on Port Vila with limited reach to outer island locations.

In V-CAP field sites there are limited opportunities for communities to participate in climate change and disaster risk reduction awareness activities. Some locations do not have access to radio, television or telephones. Internet is only provided at some rural high schools, generally where Peace Corps is providing internet technical support. Further, stakeholders in all V-CAP sites reported that the absence of extension officers means they do not receive information on climate change, local impacts and adaptation options.

However, in locations where existing projects have been or are being implemented by development partners local communities did report some level of awareness of climate change. CC information was typically provided by project personnel to communities through village meetings. However, the village meeting setting generally does not provide opportunity for in-depth discussion of issues, and women and youth often do not actively participate in these sessions. As such, there is substantial opportunity to upgrade approaches to delivery of CC information in V-CAP sites.

Throughout Vanuatu, various pilot activities have demonstrated good adaptation and risk reduction measures. However, documenting, sharing and the up-scaling of these demonstration projects have been quite limited. Therefore, V-CAP can provide an important service by supporting the development of locally “tried and true” adaptation technologies through the use of locally appropriate communication strategies. Simply posting the results on government, agency or project websites is not a suitable approach to enhancing knowledge management to the rural Vanuatu context.

Four of six V-CAP field sites have high schools that could play a pivotal role in testing climate change education and awareness materials that are centrally developed. In this regard, the UNDP PACC project has successfully involved high school students in constructing an integrated 3D map of Epi Island which can serve as a platform for planning local CC activities. There is potential to scale up this activity in other schools.

Given the PMU's role in drawing together key CC agents in Vanuatu, it could play an important function in documenting and showcasing the most successful approaches communicating messages on climate change. In this way, it could make a significant contribution to the delivery of an integrated and targeted education and awareness campaign.

In developing CC communication materials it is important that these resources are user-friendly and gender sensitive. For example, rural communities converse in local vernacular and would be most interested in materials that are easy to understand and that concern topics most relevant to them. In addition, information, education and awareness materials should present CC awareness messages targeted to specific audiences based on their roles and responsibilities in the community. For instance, information about food handling, water and sanitation issues could most effectively be targeted at women.

Output 4.1.1 Best practices are captured, documented, and distributed to all local and national stakeholders and shared globally in appropriate mechanisms (development, populating and maintenance of national website for CC) through the NAB

Adaptation alternatives (with LDCF intervention):

V-CAP interventions will build on the existing communications work that promotes solid technical solutions to climate change adaptation in Vanuatu. There is a pool of existing "CCA technologies" already deployed in the field in Vanuatu. These materials will be compiled in easy to use information and awareness packages and deployed to local stakeholders. This will include developing and/or compiling extension materials that can be used in community-based Component 1 activities.

As V-CAP progresses, lessons learned and best practices will also be captured, documented, and distributed to local and national stakeholders. In particular, lessons will focus on processes for participatory engagement of communities in climate change adaptation planning to share with other communities and all levels of government. Video documentation of participatory CC processes "in action" will make a valuable contribution to cross-site learning and replication efforts. To carry out this activity, V-CAP will provide suitable equipment and training in video documentation.

V-CAP will also support capturing, documentation and dissemination of lessons learnt at the national and global level by: uploading best practices on the NAB website; by participating in national level dialogues and by preparing articles and papers for presentation of regional and global forums. Particular emphasis will be placed on showcasing climate change solutions that meet the particular needs of vulnerable communities and groups including women, children and people with disabilities.

A part-time Communication and Training Coordinator will be engaged to lead and manage this component of the project. This position will be based in the PIU and will work closely with the field staff and the PMU to ensure that lessons from V-CAP, and other related climate change initiatives, are captured and shared through the most appropriate means.

Output 4.1.2 Awareness, training and education programs developed and implemented for e.g. schools, households and the private sector; translated into Bislama and French as applicable and working with ongoing initiative.

Adaptation alternatives (with LDCF intervention):

Opportunities will be identified to foster partnerships with the private sector, particularly in relation to planting species that are optimal for erosion control and that also provide economic benefits. For example, *tamanu*⁵ trees producing *tamanu* oil and vetiver grass, are both very effective plants that will be used for erosion control when planted alongside roads. Particular emphasis will be placed on species that produce essential oil. In addition, other suitable species for planting will be identified communities. Private sector engagement in the promotion and provision of seeds and propagates is strongly encouraged and will need to be investigated.

Existing climate change awareness materials will be developed and disseminated to all primary schools within V-CAP sites and teacher training will be provided. These materials will be developed in Bislama to ensure they will be used and beneficial to the wider community.

For the four secondary schools in V-CAP target areas, a climate change teaching package will be developed and teacher in-servicing provided. In addition, schools will be supported in using the 3D model approach demonstrated by Epi High School with the support of the UNDP PACC project.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risk

Description	Date	Type	Impact (I) and Probability (P)	Mitigation – Countermeasures / management response
1	Limited capacity in government agencies to implement the project and sustain project outcomes	Pre-PPG	Operational Organization I= 4 P= 2	<ul style="list-style-type: none"> Capacity building is embedded into each project component Capacity will be built within government partners and communities in all aspects of the project and post-project activities. Focus at community level through planning processes will build community capacity Technical assistance will be carefully used to build rather than substitute for capacity. A coordinated approach by the implementing partner with other agencies involved to leverage on training opportunities and resources available
2	Lack of data to design adaptation measures	Pre-PPG and on-going	Operational I= 3 P= 1	<ul style="list-style-type: none"> The project includes a component to strengthen data capture and management as well as vulnerability/risk assessments. The PPG phase was able to identify key areas for investment Will be important to schedule comprehensive data collection for key adaption measures in project activities to form the basis for design of the adaptation measures
3	Weak	Pre-PPG	Operational	<ul style="list-style-type: none"> Formulate a clear coordination mechanism

⁵ *Calophyllum inophyllum* an indigenous tree species found throughout Vanuatu. This species has a high retail value for local communities.

	coordination and communication amongst project partners may impede project progress	and on-going	al	I= 4 P= 2	<p>amongst partners providing mechanisms for seeking their inputs at all levels (national, provincial and project site committees)</p> <ul style="list-style-type: none"> • Establish a Project Implementation Unit (PIU) to oversee the whole operations & management of the project • The project will be coordinated by NAB which has mandate for coordination and resources for carrying out its mandate • Need to ensure the NAB is able to carry out this role.
4	Participation by communities may not come at a level necessary to ensure project success	Pre-PPG and on-going	Operational	I= 4 P= 1	<ul style="list-style-type: none"> • Project is designed to benefit communities directly, it is expected that cooperation will be at the highest level • Participatory approaches, capacity building and communications will build strong ownership by communities • Communities have offered in-kind inputs from communities – this needs to be recognized and collated • Develop a baseline and maintain records of community engagement • Identify appropriate (non-cash) incentives
5	Gender and social inequality may impede project progress and achievements	Pre-PPG and on-going	Operational	I= 4 P= 1	<ul style="list-style-type: none"> • Gender and social inclusion strategy has been prepared to guide engagement of women and other key groups • Implementation and monitoring and evaluation of this strategy is important; • The project will continuously promote the participation of women in the project and ensure that a gender perspective is integrated into planning and execution of all plans and strategies
6	Large land areas need agreement from customary owners for CCA activities	Pre-PPG and on-going	Operational and political	I= 4 P= 1	<ul style="list-style-type: none"> • Project formulation process engaged with land-holders and identified current disputes • Further engagement of traditional owners needs to be ongoing throughout the project • Need to ensure land-owners are aware of the impact of climate change and process for building resilience
7	Climate change risks	Pre-PPG and on-going	Environmental	I= 3 P= 1	<ul style="list-style-type: none"> • Project will explicitly consider this as it is about adaptation to CC impacts
8	Political instability	Pre-PPG and on-going	Political	I= 4 P= 2	<ul style="list-style-type: none"> • The Project will be embedded into ongoing programs of the government of Vanuatu with linkages with national and provincial level officers • Part of the project will be delivered through NGO mechanisms • Project management may encourage the cooperation of the various ministries to buy in where necessary to have the top-level support
9	Ineffective coordination across implementing partners and Responsible Parties for project activities	Oct 2013		I= 3 P= 1	<ul style="list-style-type: none"> • The risk will be mitigated by the Memorandum of Understanding that has been signed between key implementing partners outlining specific roles and responsibilities • Each implementing partner agency will appoint a dedicated project focal point from a Director-level (with an alternate) to ensure interface of the project remains constant

					<p>throughout the project implementation and continuity of technical inputs from these departments</p> <ul style="list-style-type: none"> • Moreover, the project will recruit officers to be out posted to undertake project-related activities under their respective components • Technical meetings among these officers and PIU staff, including the International Technical Advisor will take place at least once a month
10	Natural disasters and Extreme climate events such as cyclones or severe droughts will affect the progress of project	Oct 2013		I= 3 P= 3	<ul style="list-style-type: none"> • The annual probability of severe cyclones affecting the country is relatively high • In addition, earthquakes, volcanic eruptions and tsunamis are frequent and may impact on the project sites and Vanuatu as a whole • While such emergency situations are unavoidable and once they occur, impacts on project implementation is inevitable • V-CAP was developed with a significant focus on the existing capacity gaps within the implementing partner and responsible parties and working with communities • The DRR plans developed under V-CAP will assist with communities on the national level
11	Environmental impacts potential of some infrastructure related activities	Nov 2013		I= 3 P= 1	<ul style="list-style-type: none"> • Guidelines to be followed as in UNDP environmental and social screening • Potential for environmental impact needs to be assessed and monitored by PIU in a log and screened • DEPC to review any projects activities with major potential for impact
12	Invasive species may be introduced or spread by project related activities	Nov 2013		I= 3 P= 1	<ul style="list-style-type: none"> • Government of Vanuatu guidelines will be followed in relation to biosecurity and invasive species management

A.7 Coordination with other relevant GEF financed initiatives

Coordination of V-CAP with other projects and the national development agenda will be through the National Advisory Board on Climate Change. The NAB comprises representatives of key government agencies, development partners and NGOs. The NAB is seeking to strengthen coordination and delivery of all climate change adaptation and mitigation activities in Vanuatu.

The proposed project will coordinate with the following ongoing and planned GEF activities in Vanuatu.

- *Pacific Ridge to Reef Program*. The Pacific R2R program implements national projects in all participating PICs and a regional program support project. Both the national and regional projects would entail on-the-ground activities, including CC-A. The project will coordinate closely with both the regional project (implemented by UNDP) and the national project in Vanuatu (implemented by FAO). Most projects in the R2R program are in various stages of preparation. Once the relevant projects under the Pacific R2R program are approved and implemented, this LDCF project will explore more formal participation in relevant national and regional capacity building activities and other initiatives which could benefit its implementation.
- *Pacific Adaptation to Climate Change (PACC)*. The PACC Project aims to significantly improve the effectiveness of the response to climate change in the Pacific. In Vanuatu, PACC is supporting the design of relocating parts of roads on Epi Island as an adaptation measure to sea level rise as there are strips of current roads are located near the high water mark. The lengths of roads that are vulnerable. As an adaptation measure, the project will relocate the current roads to safer ground and address drainage systems to allow for run-off during heavy rainfall and sedimentation ponds to limit sedimentation. PACC is implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) in partnership with UNDP. It is funded by the GEF, AusAID and UNITAR. V-CAP will work closely with PACC particularly on Epi Island which is an adjacent site. There is the opportunity for V-CAP to build upon the important work of PACC to date.
- *Pacific Integrated Water Resources Management (IWRM) Project*. The regional project is implementing demonstration of IWRM in the Sarakata - the main source of water for the town of Luganville on Espiritu Santo Island, which is the second largest urban centre in Vanuatu. There are many informal settlements along the banks of the Sarakata, most of which have no access to running water. The participatory research focuses on these settlements and risks to their water quality and to the river. Vanuatu, like most Pacific Island Countries, is progressing a national agenda for Integrated Water Resource Management. It has recently adopted a new national water policy. It is noted that PWD is implementing this project.
- *Increasing Resilience to Climate Change and Natural Hazards in Vanuatu*. This WB Project is being implemented with financial support from the LDCF among other donors. The objective is to increase resilience of communities in Vanuatu to the impacts of climate variability and change and geological hazards, on food and water security, as well as livelihoods. There is a clear focus in this project on provision of agriculture support, rural water supply and disaster preparedness. The WB project has identified two initial coastal pilot sites for Integrated DRM and Adaptation Activities – one in East Ambae, Penama Province and another in Aneityum, Tafea Province. There is no overlap between these sites and the V-CAP sites – however there are a number of synergies through the delivery of sites in working with the same providers. In the sectoral efforts there are very strong synergies, in particular in the agricultural sector. This WB project will be supporting wider distribution of the climate resistant crops – for which there is great potential to be used in the V-CAP field sites. Extensive discussions were held on the WB project during the PPG and these discussions should continue. In addition, the DRM in the WB project could guide the delivery of such activities in V-CAP sites. Formal coordination with the WB project will be through the NAB. However, it is important that the good relationship established with this project is maintained through regular, perhaps monthly, coordination meetings.

- *Climate Proofing Development in the Pacific.* This ADB-proposed programmatic approach is expected to reduce vulnerability of vital infrastructure in the Pacific LDCs through the implementation of NAPA priorities. The proposed activity for Vanuatu is the inclusion of CC adaptation and disaster risk management for the Port Vila urban drainage and transport plans. The nature of concrete adaptation measures that were proposed are entirely different from the UNDP proposal as they are essentially an urban project. However, there could be synergies in the soft components on governance and knowledge management. Project preparation was initiated in late 2013 and the PPG team was in contact with the ADB design team and provided initial concepts during the PPG design phase.

Other relevant Non-GEF activities

- The *UNDP Pacific Risk Resilience Project (PRRP)* is an Australian Government and operating in 4 Pacific Island countries including Vanuatu. The focus on the project is to strengthen and enhance governance in relation to disaster risk reduction and disaster preparedness. Close synergies have been established in the design of these initiatives.
- The project *Coping with Climate Change in the Pacific Islands Region (CCCPiR)* is being implemented by the German International Development (GIZ) through the Secretariat of the Pacific Community (SPC). This project is developing a range of pilot climate change adaption methodologies to support community level adaptation to climate change. There are mutually beneficial synergies between these programs, in particular in spreading the adaption technologies and approaches to the V-CAP project sites.
- *Promotion of the Grace of the Sea in Coastal Villages Project.* The second phase of a JICA-funded project that started in early 2012 and will run for three years. The project objectives are to: (i) produce seeds of key aquaculture species, such as giant clams, green snail, trochus and sea cucumber; (ii) develop management plans for each species and implement grow-out farms for giant clams in coastal areas; and (iii) carry out educational programmes targeting school children and communities. The project is housed in Vanuatu Fisheries Department (VFD). The purpose of the Grace of the Sea Project is to promote community-based coastal resource management with the overall goal “*Livelihoods of coastal communities are improved through the community-based resource management at the model sites and the resource propagation of the target species occupying the model areas*” The project targets the following species and includes trochus (*Trochus niloticus*), green snail (*Turbo mamoratus*) and giant clam (*Tridacna spp*) in Mangaliliu village, Lelepa, Sunae and Tassiriki village on Moso. There a strong links between V-CAP and this initiative.
- *Mangrove Ecosystems for Climate Change Adaptation and Livelihoods (MESCAL) Project.* This regional IUCN project funded by BMU covers Vanuatu, Fiji, Samoa, Solomon Islands and Tonga aims to help Pacific Islanders effectively manage their mangrove and associated coastal ecosystems to build resilience to the potential consequences of climate change and variability on coastal areas and support/enhance livelihoods. In Vanuatu, the project is implementing activities that are very relevant to the proposed project. These include generating baseline information, supporting local governance, implementing demonstration activities, among others. This project will draw to a close in 2014.
- *Mangrove Rehabilitation for Sustainably Managed, Healthy Forests (MARSH) project* is primarily focused in PNG, but has components in Vanuatu and the Solomon Islands. The MARSH Project is anticipated to operate in Vanuatu form 2014 to 2018. The MARSH project’s main activities include: (1) providing training for community-based, sustainable mangrove forest management and mangrove reforestation; and (2) strengthening technical and scientific capacity of local universities and public institutions to conduct forest carbon monitoring, reporting and verification.

- The USAID funded Coastal Climate Adaptation Program (C-CAP) is also support local adaptation approaches for coastal communities in Vanuatu as part of their Pacific regional approach. V-CAP will share vulnerability assessment methodologies with C-CAP and through the NAB will ensure that activities are aligned.
- Vanuatu –Climate Adaptation Network is a network for development partners implementing climate related project in Vanuatu. This NGO driven network is ensuring sharing of information and approaches to CCA and also links into the NAB.
- In addition, there are a range of other projects and networks in a variety of sectors implemented by the Government, Development Partners and NGOs related to climate change adaption and building resilience. These stakeholders will play an important role in informing the delivery of V-CAP and it will be important for the V-CAP implementing team to continue to coordinate and liaise with these partners.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

- The design of the project has emphasized the need for a country driven approach to address priorities at the national, provincial and local levels. It is vital that all stakeholders are engaged at each of these levels and play a lead role in guiding, driving and evaluation of the delivery of VCAP.
- At the national level, the National Advisory Board will play the key role in the oversight of V-CAP. It is anticipated the V-CAP will be a ‘flag-ship’ project for demonstrating delivery of an integrated and mainstreamed approach to building resilience to climate change. The national agencies leading the various components will need to ensure the integrated delivery of approaches through the development of stakeholder engagement plans.
- At the provincial level, V-CAP will build provincial level capacity to deliver support to communities through strengthening climate change adaption processes with the guidance of the Department of Local Authorities. It will be important that a coordinated mechanism is identified at the Provincial level to ensure coordination. One of these mechanisms is the newly created provincial Technical Advisory Committee (TAC), which has representatives of all key technical agencies with officers at the provincial level.
- As a high proportion of activities will be implemented in field sites through Component 1, it vital that V-CAP engages and meets the needs of local stakeholders. This will be achieved through working with Area Councils and their representatives, Area Council Secretaries, the traditional chiefly system, Village Disaster Committees, various village development committees and other religious groups, youth networks and other village level organizational structures. It is important to recognize the V-CAP will have a limited lifespan, but one of the key aims to create a climate change adaption plan at the local level is for the plan to be adopted by all community members for the long term.
- It will be important to identify innovative and engaging approaches to promoting building resilience to climate change in the coastal zone. It is vital to use advocacy and communications work that are suitable and culturally appropriate to the Vanuatu society. In addition, links will be created with the private sector to identify mechanisms to address enhancing climate change resilience while increasing income for local communities.
- A wide range of stakeholders will be involved in the project, tailored to the specific needs of the four project outcomes. A crucial component of PPG activities was to consult on the detailed design for stakeholder engagement. Key stakeholders to be engaged include a range of

government line ministries to implement and support the project implementation, NGOs, project site-specific Provincial Governments and local communities including some of their interest/community groups. In general, stakeholder engagement will build on the PPG Phase, and will begin at the inception workshop which will be held within the first twelve months of project start. However, recruitment of the PIU positions, specifically the Project Manager will start the stakeholder engagement process, through meetings and initial discussions as the PIU establishes its own ‘network’ of contacts across institutions and projects/programmes.

- Two key partners in the implementation of V-CAP will include Vanuatu Association of Non-Governmental Organizations (VANGO) and Vanuatu – Climate Adaptation Network (V-CAN) comprising national and international NGOs. It is essential that the both these organisations play a role in firstly supporting implementation by the Government, but also look for opportunities to link communities with NGOs delivering climate change adapting solutions “on-the-ground”. VANGO in its position as leading the small-grants scheme in Vanuatu is ideally positioned to ensure both capacity is built towards supporting the implementation of V-CAP, but in addition through participation in the NAB and other governance structures to ensure lessons learnt from V-CAP can be shared with other VANGO supported initiatives. Finally, VANGO can provide guidance on the selection of NGO partners for implementation.
- In addition, it is anticipated that V-CAN and/or VANGO members and partners will be involved in the implementation of V-CAP. Thus, it is vital that lessons learnt from their engagement is shared with other partners in Vanuatu, in the Pacific Region and globally through appropriate fora.
- The V-CAP Inception Workshop will seek to bring together all key stakeholders from the national, provincial and site levels. It will strengthen the understanding and ownership by the NAB and all of development partners in relation to associated roles and responsibilities for delivery of the project. This will include roles in project organization structure, and discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. In addition, it will review optimal approaches to working in the field with communities, Area Councils, chiefly systems and provincial authorities.
- Based on consultation during the PPG Phase, the table below identifies the expected role of different stakeholder groups in the project including some of the initial activities, and the outcomes they will support.

Category	Institution / Stakeholder Group	Role in V-CAP Implementation
National government institutions		
Ministry for Climate Change Adaptation, Meteorology, Geo-hazards, Environment, Energy and Disaster Management	Project Management Unit (PMU) to the National Advisory Board (A Vanuatu Government Entity)	<ul style="list-style-type: none"> • Under UNDP’s National Implementation Modality will be the Government of Vanuatu’s implementing partner; • Oversee the operation of the Project Implementation Unit (PIU) to ensure high quality delivery of the project; • Climate change data storage and management as outlined in the Project Document in line with operation of the PMU; • Monitoring and Evaluation of V-CAP in line with Project Document and GEF CEO Endorsement Proposal; • Coordination between all climate change projects at the national level; • Secretariat support to the National Advisory Board on climate change; • Identify and guide the overall alignment and conformity with Climate Change Policy and NAPA; • Liaise with Ministry of Finance and other relevant ministries for

Category	Institution / Stakeholder Group	Role in V-CAP Implementation
<i>MCCAMGEDM</i>		management and operational arrangements; <ul style="list-style-type: none"> • Incorporation of approaches and lessons learnt into national policy and planning processes; • In-kind finance for specific components.
	Vanuatu Meteorology & Geo-Hazards Department	<ul style="list-style-type: none"> • Responsible for implementation of Component 2 with the guidance and support from the PIU; • Recipient of equipment, training and capacity building; • Integration of meteorological information collected with V-CAP support into national systems; • Integration of early warning systems supported by V-CAP into national systems; • Provide information about available climate change projections for Vanuatu at each of the V-CAP sites; • Provision of support to other components as required;
	Department of Environmental Protection and Conservation,	<ul style="list-style-type: none"> • Provide technical staff and institutional support for implementation of specific elements of Component 1; • Link V-CAP sites and integration of Community Conservation Areas into the National PA system; • Review, finalization and appropriate implementation of the National Integrated Coastal Zone Management Strategy at the National Level; • Oversee development, approval and implementation of Community Coastal Climate Change Adaption Plans at the local level; • Ensure integration of V-CAP with other ecosystem-based adaption projects and initiatives in Vanuatu; • Attach Technical Officer to address catchment management issues in Santo; • Integration of climate change resilience into the implementation of the Environment Impact Assessment processes for Vanuatu; • Support suitable approaches for management of water catchment areas and develop policy and legislation to ensure water security in the face of threat of climate change.
<i>Ministry of Internal Affairs</i>	Department of Local Authorities (DLA)	<ul style="list-style-type: none"> • Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; • Delivering component 1.1.1 on community engagement in CC Adaption planning for building community resilience; • Provide leadership in the implementation of the Decentralization Act and ensure V-CAP is fully integrated into the establishment of the process of implementation of the Amendment (2013) to the Act; • Facilitate and support provincial and Area Council governance arrangements for all V-CAP sites; • Support the development of Community Climate Change Adaption Plans for each V-CAP site at the community and Area Council levels; • Incorporation of the lessons learnt from “Community Resilience” Climate Change project • Lead training, workshops and meetings as needed to support V-CAP implementation; • Provide co-financing through on-going initiatives, e.g. UN Joint Project.
	National Disaster Management Office (NDMO)	<ul style="list-style-type: none"> • Contribute to component 1.1.1 of V-CAP delivery in 6 provinces in Vanuatu; • Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; • Provide information on the most suitable model of delivery of disaster management arrangements at the community and Area Council levels; • Support communities, Area Councils and Provinces to establish and operate Community Disaster Committees with community disaster management plans through training, capacity building and plan

Category	Institution / Stakeholder Group	Role in V-CAP Implementation
		development; <ul style="list-style-type: none"> Inputs for management arrangements and coordination at local, provincial and national level;
Ministry of Finance		<ul style="list-style-type: none"> Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; Provide support and oversight of specific mechanism for delivery of V-CAP through a NIM mode
Ministry of Agriculture, Fisheries and Forestry; MAGFF	Department of Fisheries	<ul style="list-style-type: none"> Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; Leadership and support to implementation of V-CAP Component 1.2.1 Finalization and implementation of National Integrated Coastal Zone Management Strategy; Development of fisheries management components of Integrated Coastal CC Management Plans, including working with appropriate parties to finalize the approval process; Baseline and regular monitoring of coastal ecosystems and their resilience to climate change related impacts; Identification of suitable strategies for harvesting and protection of key species, i.e. dugong, turtle and commercially important species, e.g. Trochus; Technical support in development of fishery protection management regimes in project sites; Ensure facilitation of provincial level inputs into component 1.2.1;
	Department of Agriculture	<ul style="list-style-type: none"> Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; Provision of technical support and guidance to component 1.2.2. Provision of technical support for provision of extension on climate resilient crops and related species in V-CAP sites Technical support in identification of integration of soil conservation considerations into local CCCA Plans. Support in integrating building resilience to CC into the development of national policy for Agriculture
	Department of Forestry	<ul style="list-style-type: none"> Coordination through National Advisory Board (NAB) on Climate Change and Disaster Risk Reduction; Provision of technical support and guidance to component 1.2.2; Provision of technical support for nursery construction and operation in selected sites; Technical support in identification of integration of soil conservation considerations into local CCCA Plans.
	Department of Livestock (DOL)	<ul style="list-style-type: none"> Coordination through NAB Liaison with DOL officials during PPG Provision of technical support and guidance to component 1.2.2 – particularly in Santo . Provision of technical support for provision of extension on cattle and Impact on the environment in V-CAP sites Technical support in identification of integration of water quality considerations (i.e. reduce nutrient inputs into stream, creeks and rivers) into local CCCA Plans.
Ministry of Public Works and Infrastructure	Public Works Department,	<ul style="list-style-type: none"> Coordination through NAB Participated I PPG field mission Responsible for delivery of road related rehabilitation of component 1.2.3 Provide linkages to VTSSP Develop guidance and standards with VTSSP and other partners to develop building codes and specifications for ‘climate proofing

Category	Institution / Stakeholder Group	Role in V-CAP Implementation
		infrastructure”
Ministry of Natural Resources	Department of Rural Water Supply	<ul style="list-style-type: none"> • Participation in workshops and meetings • Provision of technical support and guidance into component 1.2.2.
Ministry of Education	Department of Education (DOE)	<ul style="list-style-type: none"> • Coordination through NAB • Liaison with DOE officials during PPG • Information on the existing climate / environment-related curriculum • Inputs for potential development of climate/disaster management related school curriculum – particularly related to components 3 and 4
Provincial Government institutions	Provincial Governments	<ul style="list-style-type: none"> • All provincial governments played a key role in planning for the delivery of V-CAP during the PPG; • Provincial governments supporting and leading appropriate elements of delivery of component 1, in particular the mainstreaming of climate change adaptation • Monitoring of project activities, in-kind support to project delivery; • Review of pilot site designs and interventions, and sign off on Community Climate Change Adaption Plans and associated coastal, upland and infrastructure climate proofing plans; • Support to community engagement and development of project best practice materials; • Identification of lessons learnt and replication of efforts at additional sites in each province;
Local government, community representatives	Chiefly village councils	<ul style="list-style-type: none"> • Representative consulted during field visits in all six sites. • Will be vital in coordination of processes for planning for building community level resilience • Chiefly village councils will lead with key agents the Community CC Adaptation Planning processes – with a focus on all aspects of delivery of component 1, in particular the mainstreaming of climate change adaptation into village level planning • Monitoring of project activities, in-kind support to project delivery • Lead community engagement and guide development of project best practice materials
	Ward / District councils	<ul style="list-style-type: none"> • Unique to Penama and Shefa Provinces – • Will be engaged in all of component 1 and scaling up of project activities to other locations in the province
	Area Council Representatives – in particular Area Secretaries	<ul style="list-style-type: none"> • Involved in development of PPG in field sites • Area Councils and Area Council Secretaries will be the engine of delivery of Component 1 of V-CAP at each of the six sites • Validation of assumptions made in the PIF especially adaptation needs of communities • Feedback on the proposed activities and guidance • Participation in workshops and meetings
	Island-level Community Disaster Committees	<ul style="list-style-type: none"> • Involved in full development of PPG in field sites • Support to integration of CDC plans into CCCA Plans and Strategies • Current and future CDC plans and priorities • Ensure full implementation of Community Disaster Plan • Participation in monitoring and evaluation of V-CAP activities
NGOs and other national organizations	Care International / World Vision International / Red Cross	<ul style="list-style-type: none"> • Participation in workshops and meetings • Co-financing discussion • Data on existing and future projects, staff • Co-financing discussion • Provision of implementation support proposed for selected sites
	GIZ Climate Change Vanuatu	<ul style="list-style-type: none"> • Coordination through NAB • Liaison with GIZ officials during PPG

Category	Institution / Stakeholder Group	Role in V-CAP Implementation
		<ul style="list-style-type: none"> Data on existing and future projects, staff Provide experience on community level adaption technologies and resilience measures and support capacity development through sharing knowledge and lessons learned through various projects and initiatives Provide inputs and assistant to learning activities as well as participate in knowledge sharing/networking activities Facilitate coordination and synergies between V-CAP and other related regional activities related to climate change
	Vanuatu Rural Training & Development Centre Association	<ul style="list-style-type: none"> Participation in workshops and meetings in PPG Will play an important role in delivery of elements of component 1
	VANGO	<ul style="list-style-type: none"> Represented on NAB Participation in workshops and meetings Link to Small Grants Program Support implementation, to ensure capacities are built in communities as well as lessons learned through community implementation are fed back to V-CAP NAB/project decision-making Share project lessons learnt with other partners in Vanuatu, in the Pacific Region, and globally through appropriate fora
	V-CAN	<ul style="list-style-type: none"> Support implementation in communities Share project lessons learnt with other partners in Vanuatu, in the Pacific Region, and globally through appropriate fora
	SPREP, SPC and SOPAC	<ul style="list-style-type: none"> Provide inputs to the ecosystem-based resilience measures and capacity development through sharing knowledge and lessons learned through various projects and initiatives Provide inputs and assistant to learning activities as well as participate in knowledge sharing/networking activities Facilitate coordination and synergies between V-CAP and other related regional activities related to climate change
	ADB, UNDP World Bank, and other climate change specific projects in VMDG	<ul style="list-style-type: none"> Provide cooperation and develop synergies with V-CAP through their technical support to CC Adaptation in Vanuatu Participate in key workshops and coordination meetings in order to ensure alignment and synergies in areas of work related to building resilience to climate change through adaption measures in the coastal zone
	AusAID	<ul style="list-style-type: none"> Provide co-financing to the project through their budget support to PWD through VTSSP Participate in key workshops and coordination meetings in order to ensure alignment and synergies in areas of work related to climate proofing on infrastructure
	EU / USAID and other donors	<ul style="list-style-type: none"> Participate in key workshops and coordination meetings in order to ensure alignment and synergies in areas of work related to building resilience through climate change adaptation measures

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

V-CAP is designed to build the resilience of communities to impact of climate change and through this process reduce the impacts of climate change and provide long-term socio-economic benefits both at the field sites and also at the national level. Approaches to support this include:

- Vanuatu is one of the most vulnerable countries in the world to climate change and natural disasters. Over 60% of the population lives in outer islands where access to the major cities, information and communication is very limited. Communities are largely dependent on subsistence activities for survival. V-CAP will leverage LDCF and other resources to deliver services to isolated island communities, many of which has been unable to access traditional government support and extension services to ensure long-term socio-economic development. This will include the identification of opportunities for private sector engagement in support climate change adaptation on the ground.
- Communities reported to the PPG team a number of severe challenges related to socio-economic development with potential links to climate change including diseased crops affecting agricultural security; Crown of Thorns Sea stars, overfishing and sediment degrading coral reefs and reducing fish catches. Finally, coastal infrastructure such as road and seawalls is crumbling in places and becoming unusable. These issues will be greatly exacerbated by climate change. Thus, adaptive activities envisaged under Component 1 will produce measurable economic benefits in the form of enhanced agricultural output through use of more suitably adapted crops, healthier marine ecosystems producing enhanced sustainable harvests of marine resources, and better upland management conserving valuable top-soil in the coastal fringes.
- The disaster risk management-related activities under Component 2 will target communities at V-CAP sites and will also provide better information and awareness to every individual in the country, ensuring that the measurable socio-economic benefits from the LDCF resources, in the form of avoided loss of human lives and livelihood assets.
- The V-CAP PPG team developed a *Gender, Equality and Social Inclusion Strategy* (GESI) to guide implementation of V-CAP to ensure gender elements are central in achieving socio-economic development. There are a range of elements described in this strategy for ensuring socio-economic benefits such as clean water, better agricultural production and access to markets benefit not only women, but also youth and other disadvantaged groups. For example, through the targeting of women in agriculture extension activities as they are the main “farmers” in subsistence gardens there will be direct socio-economic benefits through a reduction in pest and disease in root crops.
- Additionally, recognizing the international evidence that women are more likely than men to fall victim of natural disasters, awareness and outreach activities under Component 1 and 2 will ensure women and children’s participation. For example, gender disaggregated participation in DRR related activities will be collected and reviewed by project staff to ensure their full participation.
- Specific concerns and needs of women, youth and other groups have been fully taken into considerations of the project design through extensive stakeholder consultations in all islands and in the various community meetings in each of the sites. At each community meeting participants were broken up into separate groups, with one group focusing on women and youth issues in the context of climate change impacts on natural resources and the socio-economic well-being of communities.

B.3 Explain how cost-effectiveness is reflected in the project design:

Cost effectiveness has been a key element of design of V-CAP. Some of the key elements of cost effectiveness are outlined below:

- V-CAP will adopt a holistic approach at the community, provincial and national level to enhancing climate change resilience in coastal communities in Vanuatu. It will seek to establish clear models, approaches and outcomes in community level planning for climate change adaptation to enhance resilience and be able to be used as a model for other initiatives in Vanuatu;
- The reality of rural in Vanuatu islanders is that through isolation on small islands, they have already developed a number of coping measures for environmental change and have a strong internal self-sufficiency that has developed and been practiced for thousands of years. V-CAP will build upon

these coping strategies together with leveraging supplementary approaches from the national government and development partners.

- Over the last 5 years, a range of “climate change adaptation technologies” have been developed in Vanuatu for local conditions. These range from pig farming to erosion control and planning for disaster risk management. V-CAP will work with partners to utilize and build upon these climate change resilient approaches and together with appropriate partners deliver extension, training and awareness on these approaches rather than duplicating the ongoing fully-funded efforts.
- V-CAP will work at community, Area Council, Provincial and National level in a vertically integrated manner across the six pilot sites in the six provinces of Vanuatu. This will ensure the efficient and effective opportunities from community driven and government supported adaptation initiatives reporting directly to various National Government agencies through the National Advisory Board on Climate Change project;
- The government of Vanuatu is establishing new mechanisms and approaches for delivery of government funds to local administrations through the approval of the Decentralization Act Amendment 2013 which the government considers as a more cost effective delivery mechanism for government funds. V-CAP will work with the Department of Local Authorities to trial this system and identify the most suitable and cost effective approach for delivery of funds to support local community resilience adaption activities;
- At the field sites, V-CAP will focus on building capacity through the appointment of local field staff which is far more cost-effective than flying staff from Port Vila to the field sites for short periods. In addition, this approach will assist in ensuring additional skills are built at the local community level to contribute to long-term capacity building approaches;
- V-CAP will be one of the first projects in Vanuatu to demonstrate holistic climate change adaption planning to build community resilience and thus will serve both as a standard and model for other donors and development partners. Thus, the comprehensive approach by V-CAP will provide cost-effectiveness to other donors able to also adopt the model developed and demonstrated by V-CAP.

C. Describe the budgeted M& E plan:

- V-CAP will be monitored through a series of specific monitoring and evaluation (M&E) activities. The M&E budget is provided in the table below. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures. The Project Results Framework in Section III of the project document already provides baseline and target indicators and sources of verification at the Outcome level during project implementation. These will form the basis on which the project's M&E system will be built. A detailed M&E Plan will be finalised within the first 6 months of the project based on review of the Pilot Project Designs and, where required, refinement of the Pilot Projects will take place within a maximum of 9 months from project start. This refinement process will be led by the Project Implementation Unit (PIU) and approved by the NAB.
- **Project start:** : A Project Inception Workshop will be held within the first 3 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.
- The **Inception Workshop** should address a number of key issues including:
 - Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-

- making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- Based on the project results framework and the LDCF related AMAT set out in the Project Results Framework in Section III of this project document, and finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and re-check assumptions and risks.
 - Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
 - Discuss financial reporting procedures and obligations, and arrangements for annual audit.
 - Plan and schedule PB meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first PB meeting should be held within the first 12 months following the inception workshop.
 - An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.
- Quarterly:
 - Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
 - Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
 - Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
 - Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.
 - Annually Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (1 July -30 June). The APR/PIR combines both UNDP and GEF reporting requirements. The APR/PIR includes, but is not limited to, reporting on the following:
 - Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
 - Project outputs delivered per project outcome (annual).
 - Provincial comparison of progress of implementation at each field site
 - Lesson learned/good practice.
 - Annual Work Plan and other expenditure reports
 - Risk and adaptive management
 - ATLAS QPR
 - **Periodic Monitoring through site visits:** UNDP CO and the UNDP GEF region based staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.
 - **Mid-term of project cycle:** V-CAP will undergo an independent Mid-Term Evaluation after 2 years of project implementation which is expected to be in Mid-2016.) The Mid-Term Review will determine progress being made toward the achievement of outcomes; key lessons learnt and will identify course correction if needed. In particular it will focus on the identification of progress of

implementation in field sites. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, focused on appropriate delivery mechanisms and overall project management. Findings of this review will be incorporated as recommendations for enhanced implementation during the remainder of the project's term. The organization, terms of reference and timing of the mid-term review will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term review will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The LDFC/SCCF AMAT as set out in the Project Results Framework in Section III of this project document) will also be completed during the mid-term evaluation cycle.

- **End of Project:** An independent Terminal Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP-GEF guidance. The terminal evaluation will focus on the delivery of the project's results as initially planned (and as modified through the mid-term review process). The terminal evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The LDFC/SCCF AMAT as set out in the Project Results Framework in Section III of this project document) will also be completed during the terminal evaluation cycle. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response, which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Centre (ERC). The relevant GEF/LDCF Focal Area Tracking Tools will also be completed during the final evaluation.
- **During the last three months,** the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay **out** recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.
- **Learning and knowledge sharing:** Results from the project will be disseminated within and **beyond** the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. There will be a two-way flow of information between this project and other projects of a similar focus.
- In addition, V-CAP will focus on **sharing approaches, information and lessons learnt** with the **existing** networks in Vanuatu to ensure the approaches and lessons learnt in the implementation of V-CAP are able to be adopted by other relevant development partners. This network will include the Vanuatu Climate Change NGO networks (need more detail).
- **Audit:** The **Project** will be audited in accordance with UNDP Financial Regulations and Rules and Audit policies.

i. Monitoring and evaluation work plan and budget

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time frame
Inception Workshop and Report	<ul style="list-style-type: none"> ▪ Project Manager and M&E, Planning and Social Inclusion Officer ▪ PIU ▪ UNDP MCO, UNDP GEF 	Indicative cost: \$20,000	Within first 3 months of project start up
Measurement of Means of Verification for Project Progress results of <i>output and implementation</i>	<ul style="list-style-type: none"> ▪ Ongoing monitoring by M&E, Planning and Social Inclusion Officer and oversight by Project Manager and International Technical Advisor ▪ PIU ▪ Implementation teams ▪ UNDP GEF RTA/ Project Manager and project team within PIU 	To be determined as part of the Annual Work Plan's preparation. Budgeted: \$30,000	Annually prior to ARR/PIR and to the definition of annual work plans
Annually Annual Project Review/Project Implementation Reports	<ul style="list-style-type: none"> ▪ Project Manager ▪ International Technical Advisor ▪ PIU ▪ UNDP MCO ▪ UNDP RTA ▪ UNDP EEG 	None	Annually
Periodic status/ progress reports	<ul style="list-style-type: none"> ▪ Project Manager, and M&E, Planning and Social Inclusion Officer 	None	Quarterly
External Mid-term Evaluation	<ul style="list-style-type: none"> ▪ PIU ▪ UNDP MCO ▪ UNDP GEF ▪ External Consultants (i.e. evaluation team) 	Indicative cost: \$40,000	At the mid-point of project implementation.
External Terminal Evaluation	<ul style="list-style-type: none"> ▪ PIU ▪ UNDP MCO ▪ UNDP GEF ▪ External Consultants (i.e. evaluation team) 	Indicative cost : \$45,000	At least three months before the end of project implementation
Project Terminal Report	Project Manager and M&E, Planning and Social Inclusion Officer UNDP MCO		At least three months before the end of the project
Visits to field sites	<ul style="list-style-type: none"> ▪ UNDP MCO ▪ UNDP GEF (as appropriate) ▪ Government representatives ▪ PIU 	For GEF supported projects, paid from IA fees and operational budget	Yearly for UNDP CO; as required by UNDP APRC
Audit	<ul style="list-style-type: none"> ▪ UNDP MCO 	US\$75,000 total for 5years at 15,000 per year	Yearly audit threshold =

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time frame
			US\$300,000 a year
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 210,000	

Communications and visibility requirements

- Full compliance is required with UNDP's Branding Guidelines. These can be accessed at <http://intra.undp.org/coa/branding.shtml>, and specific guidelines on UNDP logo use can be accessed at: <http://intra.undp.org/branding/useOfLogo.html>. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: http://www.thegef.org/gef/GEF_logo. The UNDP logo can be accessed at <http://intra.undp.org/coa/branding.shtml>.
- Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf. Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.
- Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFPP endorsement letter)

NAME	POSITION	MINISTRY	DATE (MM/DD/YYYY)
Mr. Albert Abel WILLIAMS	Director	Department of Environmental Protection and Conservation	June 28, 2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.
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Agency Coordinator, Agency name	Signature	Date <i>(Month, day, year)</i>	Project Contact Person	Telephone	Email Address
Adriana Dinu, UNDP-GEF Executive Coordinator and Director a.i.		Aug. 28, 2014	Jose Erez Padilla (Gr- LECRDS)	66 (0) 2304 9100 Ext.2644	jose.padilla@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

<p>This project will contribute to achieving the following Programme Outcome as defined in Sub-Regional Programme Document 2013-2017: UNDAF Sub-Regional Programme Outcome 4 (UNDAF Outcome 1.1)</p> <ul style="list-style-type: none"> Improved resilience of PICTs, with particular focus on communities, through integrated implementation of sustainable environment management, climate change adaptation/mitigation and disaster risk management By 2017, inclusive economic growth is enhanced, poverty is reduced, sustainable employment is improved and increased, livelihood opportunities and food security are expanded for women, youth and vulnerable groups and social safety nets are enhanced for all citizens. <p>Sub-Regional Programme Outcome 2 (UNDAF Outcome 5.1)</p> <ul style="list-style-type: none"> Regional, national, local and traditional governance systems are strengthened, respecting and upholding human rights, especially women’s rights in line with international standards <p>Vanuatu UNDAF</p> <ul style="list-style-type: none"> Outcome 3.1: Alleviation of poverty and increased inclusive growth, employment and livelihoods with a focus on women and youth. Specific reference to Output 3.1.3: Improved and equitable access to markets, financial and business services for women and youth.
<p>Sub-Regional Programme Outcome Indicators (UNDP Sub-Regional Program Document):</p> <p>Outcome 4</p> <ul style="list-style-type: none"> Share of budget resources earmarked for environmental sustainability, disaster risk management, climate change adaptation and mitigation; share of population with sustainable access to improved water sources and to renewable energy (disaggregated by gender and age); ratio of protected area to maintain biological diversity <p>Outcome 2</p> <ul style="list-style-type: none"> Number of countries to develop service delivery mechanisms to ensure greater equity and inclusion of most vulnerable in the population (including women, children, disabled and elderly) in the services rendered.
<p>Primary applicable Key Environment and Sustainable Development Key Result Area: Growth is inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded (Outcome 1). Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented (Output 1.4.)</p>
<p>Applicable GEF Strategic Objective and Program:</p> <p>CCA-1: “Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level”</p> <p>CCA-2: “Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level.”</p>
<p>Applicable GEF Expected Outcomes:</p> <p><u>Outcome 1.1:</u> Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas</p> <p><u>Outcome 1.3:</u> Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas</p> <p><u>Outcome 2.1:</u> Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas</p>
<p>Applicable GEF Outcome Indicators:</p> <p><u>Outcome Indicator 1.1.1:</u> Adaptation actions implemented in national/sub-regional development frameworks (no. and type)</p> <p><u>Outcome Indicator 1.3.1:</u> Households and communities have more secure access to livelihood assets (Score) – Disaggregated by gender and age</p> <p><u>Outcome Indicator 2.1.1:</u> Relevant risk information disseminated to stakeholders (Yes/No)</p>

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions	
Project Objective ⁶ To improve the resilience of the coastal zone to the impacts of climate change in order to sustain livelihoods, food production and preserve and improve the quality of life in targeted vulnerable areas	<ul style="list-style-type: none"> Number of vulnerable communities/villages/areas with enhanced resilience to climate change through effective planning and action for climate change 	Currently no comprehensive community adaptation plans supported by community adaptation actions	30 villages in 8 Local Area councils designing and implementing effective CC adaptation plans to enhance CC resilience	<ul style="list-style-type: none"> Presence of cc Adaption Plans Implementation of effective actions (min. 3 / village) to enhance cc resilience <p>Assumptions:</p> <ul style="list-style-type: none"> Target communities are willing to participate in the process of developing and implementing CC adaption plans Project activities are fully participatory Sufficient political commitment from key stakeholder governments are ensured throughout the life cycle of the project Communities are able to identify and make use of suitable traditional and resilient methods of CC adaption. The government is able to attract high-quality project staff <p>Risks:</p> <ul style="list-style-type: none"> Communication issues with outer islands interferes with effective planning and implementation Project unable to identify 	
	<ul style="list-style-type: none"> Percentage of the population in target sites covered by effective the 24/7 early warning system 	Many communities in V-CAP sites are remote and not able to receive warning	100% of Vanuatu population receives high quality early warning in a timely manner using of the multiple communication lines		<ul style="list-style-type: none"> Simulations Quality of warning data Feedback from communities (disaggregated by gender and age)
	<ul style="list-style-type: none"> Policies in place to support Climate change adaptation enabling policies and supportive institutions in place 	No approved framework for integrated coastal zone management and limited coastal planning policies to support coastal climate change adaption	Integrated coastal zone management framework incorporating resilience though climate change adaptation supported by appropriate sectoral and cross sectoral policy and legislation		<ul style="list-style-type: none"> Approval of integrated coastal zone management framework 2 sectoral policies / plans incorporating climate change

⁶ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
				suitable/acceptable support mechanisms for communities <ul style="list-style-type: none"> • High cost of working in outer islands makes interventions uneconomic • Unable to attract and retain suitable staff
<p>Component 1: Integrated community approaches to climate change adaptation</p> <p>1.1. Integrated CC-Adaptation plans mainstreamed in the coastal zone</p>	<ul style="list-style-type: none"> • Development of Community CC-Development Adaption Strategies (CCCDAS) at the village level⁷ using common indicators across all project sites • Community Disaster Committees⁸ established and operational with specific plans developed in targeted communities and at Area Council level 	<ul style="list-style-type: none"> • In most V-CAP target areas communities have not developed community adaptation strategies • 12 of 30 villages have Community Disaster Committees • 6 disaster management plans have been finalised at community level • 0 Area Councils have Community Disaster Plans 	<ul style="list-style-type: none"> • 30 Community CC-Development Adaption Strategies (CCCDAS) at the village level⁹ using common indicators across all project sites • CDC established and operational in at least 30 communities, 8 Area Councils & 1 District • 8 Area Councils with operational Disaster Plans and equipped to respond to enhance resilience to climate related natural disasters 	<ul style="list-style-type: none"> • Plans developed for all selected communities (30 in total) • Community participation in planning process (disaggregated by gender and age) • Area Council members elected, including women and youth representatives, and Area Council functioning • Minutes of CC / DRM committee meetings • CDC's registered with NDMO, VMGD • List of representatives <p>Assumptions:</p> <ul style="list-style-type: none"> • All target communities are willing to participate in the process of developing and implementing CC adaption plans • Communities are able to identify and make use of suitable traditional and resilient methods of CC adaption. <p>Risks:</p> <ul style="list-style-type: none"> • Communication issues with outer islands interferes with effective planning and implementation • Project unable to identify

⁷ A “community” in Vanuatu often includes a number of villages – based on the genealogy of the community and traditional practices

⁸ Community Disaster Committees will be re-aligned and mainstreamed with overall community development committee

⁹ A “community” in Vanuatu often includes a number of villages – based on the genealogy of the community and traditional practices

	Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
				<ul style="list-style-type: none"> selected by each Area Council registered with DLA (disaggregated by gender and age) Formal written plans approved by relevant government agencies including PMU, NDMO, DLA in addition to Provinces. 	suitable/acceptable support mechanisms for communities <ul style="list-style-type: none"> High cost of working in outer islands makes interventions uneconomic Unable to attract and retain suitable staff
1.2 Improved climate resilience of coastal areas through integrated approaches	<ul style="list-style-type: none"> 1.2.1 : Length of coastline put under improved integrated coastal management to improve ecosystem-based adaptation 	<ul style="list-style-type: none"> No formalised management plans have been developed and approved for areas Currently a “tabu” areas are developed in “haphazard” manner without systematic measuring of coverage and without long-term management plans or monitoring Some tabu areas do exist for the purpose of managing fish harvesting on a short term basis without long term conservation measures integrated into management 	<ul style="list-style-type: none"> Community Integrated Coastal Zone Management Plans (CICZM Plans) established integrating “kustom tabu” areas to enhance ecosystem resilience food production and livelihood support for local communities in 30 locations Six additional 6 additional Community Conservation Areas (CCAs) to national PA network Tabu areas / CCAs/ MPAs linked together through Area Council ICZM Plans to ensure 	<ul style="list-style-type: none"> Plans developed for tabu areas and LMMAs using appropriate laws and regulations approved by province and authorities under ICZM framework Participation by communities in planning process (disaggregated by gender and age) Sites registered under national CCA/MPA planning processes Regular monitoring (Reef check type) against baseline to measure change and identify emerging 	<p>Assumptions:</p> <ul style="list-style-type: none"> Island communities able to link traditional practices in “tabu areas” with LMMA approaches to contribute to CC resilience Suitable “soft infrastructure” investments have demonstrable impact on marine ecosystem resilience within project period Communities able to clearly articulate links between upland coastal issues and coastal and marine water quality <p>Risks:</p> <ul style="list-style-type: none"> Ridge to reef management approaches not able to

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	<ul style="list-style-type: none"> • Small number of Marine Protected Areas in selected sites (6 in total) 	<ul style="list-style-type: none"> • integration of planning processes • Knowledge sharing and integrated development of coastal areas. • Community, including women and youth, participating in the monitoring, evaluation and management of CICZM Plans in 30 sites • Improve ecosystem resilience and health 	<ul style="list-style-type: none"> • issues • Monitoring of implementation of CICZM plans 	<ul style="list-style-type: none"> • demonstrate impact in five year time frame • Communities unwilling to expand the practice of “tabu areas” • Tabu areas not respected by all community members in surrounding areas • Uptake of knowledge is low and resilience not significantly improved • Communities unable or unwilling to address water supply issues due to land or ownership disputes.
<ul style="list-style-type: none"> • 1.2.2 Enhanced resilience of terrestrial coastal areas to minimize erosion, provide clean water resources to both communities and ecosystems enhancing the livelihoods of coastal communities 	<ul style="list-style-type: none"> • Poor catchment management is resulting in high sediment loads, high level of nutrients • Coastal ecosystems are being degraded by poor water quality • Poor sanitation is creating health issues in some coastal communities, particularly for children • Water shortages during climate related events • Loss of food production through 	<ul style="list-style-type: none"> • Development of 30 Upland Management CCA Plans (UMCCAP) for coastal catchment with actions to reduce run-off resulting in improved turbidity of rivers, streams and coastal waters and a reduction of nutrient-rich sediment reaching the coastal area • 20 Erosion “hotspots” with action resulting in reduced erosion • Reduction in cases of water borne illnesses 	<ul style="list-style-type: none"> • Baseline and review surveys of the erosion hotspots in the upland areas of coastal catchments • Water quality monitoring at site level • Health centre records • School attendance records • Agricultural food production surveys • Regular coastal reef monitoring of corals and associated ecosystems • Minutes of community meetings, etc 	

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	disease and pests	<ul style="list-style-type: none"> in communities affected by improved catchments Enhanced agricultural productivity Increased water security for 2,000 people 	<ul style="list-style-type: none"> Regular monitoring against baseline to measure change 	
<ul style="list-style-type: none"> 1.2.3 Number of public conveyances able to be climate proofed to provide long-term use by vulnerable coastal communities 	<ul style="list-style-type: none"> Current public conveyance infrastructure (including roads, bridges, pedestrian walkways, river crossings and walking tracks) in poor and deteriorating condition due to flooding and erosion severely limits access to basic services Pedestrian river crossings do not exist resulting in injury and death, especially of children, people who are ill and those with physical disabilities during severe flooding. Erosion, water and climate related factors making public conveyance infrastructure to 	<ul style="list-style-type: none"> 10 pedestrian bridges established 4 water crossings rehabilitated 10 km of road rehabilitated 6 pedestrian walking paths “climate proofed” Total of 10,000 community members with better access to markets, education and health) 	<ul style="list-style-type: none"> Plans for development of infrastructure agreed with authorities and communities with due consideration to public use requirements and patterns, including the specific needs of women, children and people with disabilities Climate proofing of existing conveyance infrastructure (i.e. roads and bridges) and construction of new pedestrian infrastructure (i.e. river crossing and walkways) as per the specifications contained in Section 1.2.3. Public use surveys show improved school attendance, greater use 	<p>Assumptions</p> <ul style="list-style-type: none"> Public Works will provide resource inputs as per the agreed schedule of works Communities will contribute labour for infrastructure investments <p>Risks</p> <ul style="list-style-type: none"> Land issues will arise in areas where access is required Communities will not maintain infrastructure <p>New public infrastructure will not be equitably shared by all community members; social problems could development</p>

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		vehicles • Limited access to health, education and markets in extreme weather conditions.	of health and other services and increased amount of market goods (disaggregated by gender and age) • Village products sold at local outlets resulting in improved family income (disaggregated by gender and age)	
<p><i>Outputs supporting Outcome 1</i></p> <ul style="list-style-type: none"> • 1.1.1 CC adaptation plans, including risk management, preparedness and response plans, formulated in the context of ICM and in relation to assessed site-specific vulnerabilities, subsequently adopted and mainstreamed in planning processes for at least 6 priority vulnerable coastal communities • 1.2.1 Threatened coastal ecosystems and resources such as mangroves, coral reefs, and fisheries rehabilitated to support livelihoods and food production and increase climate resilience • 1.2.2 Coastal areas stabilized through re-vegetation and other ‘soft’ approaches to complement ‘hard’ measures • 1.2.3 Improved resilience through climate proofing of selected public conveyance infrastructure (roads, bridges, etc. implemented by the Public Works Department) in the coastal zone in at least 6 priority vulnerable coastal communities 				
<p>Outcome 2:</p> <p>Information and early warning systems on coastal hazards</p> <p>2.1 Reduced exposure to flood-related risks and hazards in the target coastal communities</p>	<ul style="list-style-type: none"> • Better quality accuracy and timeliness in weather forecasting, particularly for extreme events such as extreme rainfall events, storm surges, tropical depressions and cyclones informing EWS • Strengthened capacity within VMGD to deliver timely climate related information to all communities in Vanuatu 	<ul style="list-style-type: none"> • A warning system exists, however it is limited by access to up-to-date information and high quality information. • Collection of weather related data is manual, relies of 24/7 staffing and limited during weather related events • A warning system exists, however it is limited by access to 	<ul style="list-style-type: none"> • By the end of the project at least 100% of targeted V-CAP communities receiving timely and accurate early warnings of coastal hazards including floods, cyclones and other natural disasters and respond to early warnings and take the appropriate actions 	<p>Assumptions:</p> <ul style="list-style-type: none"> • Observations and reports from the annual mock drills • Delivery of high quality training and full participation by relevant officials • Ongoing monitoring and evaluation of plans which actively includes representatives of all community social • Appropriate Radio and other related infrastructure, which is the primary baseline project for covering 100% of population continues to operate under extreme conditions • NDMO has sufficient capacity and skills to implement the EWS • Phone companies are willing to participate and provide services

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	<ul style="list-style-type: none"> up-to-date information, distribution networks and capacity of government to delivery timely warnings and information • • There are no special provisions or considerations regarding the needs of vulnerable groups of people including children, older people and those with a disability 	<ul style="list-style-type: none"> following the warning (disaggregated by gender and age) • Better quality meteorological forecasting available for all people of Vanuatu • Higher quality data available for meteorological forecasting available for all people of Vanuatu • Better quality metrological forecasting in Vanuatu, particularly in relation to extreme climate events • 	<ul style="list-style-type: none"> groups including women. • Data from weather stations reported in a timely manner • External evaluation of weather data collation • Disaster response plans prepared for villages and implemented inclusive of the needs of vulnerable groups in emergency situations 	<ul style="list-style-type: none"> • There is sufficient technical capacity and human resources for installation of communication equipment <p>Risks:</p> <ul style="list-style-type: none"> • High turn-over among key stakeholders in the government and NGO sector during the project implementation results in loss of knowledge and experience • Access and communication is difficult with selected sites
<p>Outputs supporting Outcome 2</p> <ul style="list-style-type: none"> • 2.1.1 Automated system for real time monitoring of climate-related hazards such as coastal flooding, storm surges, sea-level rise designed, installed and maintained; trends in these climate impacts analyzed over time • 2.1.2 Timely release of early warnings against coastal flooding and storm surges through various public media, e.g., radio, internet, TV through applicable public-private partnerships with e.g., with Digicel; TVL – Telecom Vanuatu Ltd; commercial radio and TV stations • 2.1.3 Capacity of 18 VMGD staff in the operation and maintenance of AWS and in the analysis of data strengthened 				
<p>Outcome 3. Climate Change Governance</p> <p>3.1 Climate</p>	<ul style="list-style-type: none"> • Number of sectoral policies, plans and strategies explicitly recognising approaches to climate change 	<ul style="list-style-type: none"> • Currently there are limited number of national sectoral policies, plans and strategies that 	<ul style="list-style-type: none"> • Reform agenda established to incorporate climate change into key sectors • NICZM Framework 	<p>Assumptions:</p> <ul style="list-style-type: none"> • Reform agenda agreed by government • Sectoral policies / plans incorporating climate change • Line agencies are willing to incorporate cc adaptation into sectoral policies and plans • Sufficient information exists on possible climate scenarios

	Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
change adaptation enabling policies and supportive institutions in place	adaption and a reform agenda adopted	incorporate climate change adaptation <ul style="list-style-type: none"> • Currently there is no strategic framework for developing reform agenda for key sectors • NICZM Framework is draft form (2010) • Currently there are no written guidelines concerning incorporation of gender and social inclusion in national or sector strategic or business plans regarding climate change • 	is finalised and approved <ul style="list-style-type: none"> • Revised EIA policy and legislation • 1 additional sectoral policy recognising and incorporating CC inclusive of gender and social inclusion considerations; • • 	<ul style="list-style-type: none"> • Minutes of meetings and discussions • Policy reviews to support integration of CC into sectoral policies / plans 	to identify appropriate sectoral responses <ul style="list-style-type: none"> • Suitable experts can be identified to deliver capacity building programs • Suitable trainees can be identified for capacity building activities at the community level <p>Risks:</p> <ul style="list-style-type: none"> • Insufficient capacity exists within line agencies to undertake the review • Insufficient and/or suitable policy responses are able to be identified for Vanuatu by key agencies due to lack of institutional capacity
3.2 Human resources in place at the national, provincial and community levels	<ul style="list-style-type: none"> • Number of trained staff with sufficient resources to implement CC resilience and adaptation at the national, provincial and community levels 	<ul style="list-style-type: none"> • Currently few staff with capacity for integration of CC Adaptation approaches at provincial and community levels 	<ul style="list-style-type: none"> • 60 staff trained and implementing approaches to planning for integration of climate change into local level planning at provincial and community levels (gender-disaggregated data will be presented) 	<ul style="list-style-type: none"> • 60 trainees in training courses with gender and age disaggregated data • 12 Training courses specifically addressing building local level community resilience • number of communities where training is adopted as part of the cc resilience adaptation practices • Training materials on 6 subjects developed, 	

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
			field tested and modified as required • Reports of training courses	
Outputs supporting Outcome 3 <ul style="list-style-type: none"> 3.1.1 Legislation and national/sector policies with impacts on climate change adaptation reviewed and a policy reform agenda developed and implemented (e.g., finalization of draft National CC Policy; incorporation of CC into the EIA Policy, and sector policies in forestry, coastal fisheries, agriculture, water and sanitation; localization of existing policies) 3.2.1 Capacity building of key national and provincial government agencies (DEPC, PWD, Department of Internal Affairs, Departments of Fisheries, Forestry, Water) in areas of compliance and enforcement, monitoring and evaluation and mainstreaming of climate-related policies and regulations 3.2.2 Communities empowered to deal with climate change impacts in the coastal zone through a supportive Integrated Coastal Zone Management Framework 				
Outcome 4: 4.1. Increased awareness and ownership of climate risk reduction processes at the national and local levels.	<ul style="list-style-type: none"> Practices demonstrated and shared by the project adopted by other parties (replication) and adopted by local communities Development of 10 sets of training and awareness materials 	<ul style="list-style-type: none"> Few (if any) villages adopting and using climate change and risk reduction approaches and incorporated into local and provincial level policies, plans and practices Currently few opportunities for communities and local authorities who are practising or are interested in practicing innovative CC solutions to exchange information and learn from one another Links between isolated communities 	<ul style="list-style-type: none"> Traditional conservation practices strengthened and implemented in climate change adaptation plans, policies and action (10 sites) to enhance R2R resilience to CC Increased awareness and action incorporating the role of “natural solutions” natural resource plans and management (10 sites) Specific exchange programs for field staff, women’s and youth groups on identified climate change resilience 	<ul style="list-style-type: none"> Development and implementation of V-CAP communication strategy to increase awareness of key issues in relation to climate change adaptation and building resilience Documentation of best practices at the community, provincial and national levels (reports, reviews) Website for the project linked to NAB related databases Primary and secondary CC curriculum packages Project newsletters <p>Assumptions:</p> <ul style="list-style-type: none"> Suitable mechanism are able to be identified to reach all stakeholders at the community level Teachers are willing to attend CC in-service courses and use learning materials developed by the project <p>Risks:</p> <ul style="list-style-type: none"> Local communities are not willing to incorporate to incorporated local adaptation responses into plans Communication materials are not able to reach target communities

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	and private sector in CCA are limited	topics <ul style="list-style-type: none"> • Increased private sector awareness and identification of opportunities to engage in building CCA resilience. • Approaches demonstrated by V-CAP shared by and adopted by other local communities (replication) • Secondary schools in V-CAP sites undertaking climate awareness and capacity building activities • 	printed and share with key stakeholders) <ul style="list-style-type: none"> • Community radio show / packages to share – 12 / • Documentary films produced for each site (6 sites) • • Documentary / awareness films produced for key themes (4 themes e.g. Reef to Ridge, erosion, MPA, climate change) • Guidelines for incorporating gender and social inclusion in climate change responses developed and used to support Component 3 work • Development of 10 sets of training and awareness materials on approaches to climate change adaption and EWS • 	
Outputs supporting Outcome 4 <ul style="list-style-type: none"> • 4.1.1 Best practices are captured, documented, and distributed to all local and national stakeholders and shared globally in appropriate mechanisms (development, populating and maintenance of national website for CC) through the NAB (National Advisory Board) 				

Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
<ul style="list-style-type: none"> 4.1.2 Awareness, training and education programs developed and implemented for e.g. schools, households and the private sector; translated into Bislama and French as applicable and working with ongoing initiatives 				

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEF Secretariat Review Question	GEF Secretariat Recommended Action by CEO Endorsement	Response
7. Is the project aligned with the focal /multifocal areas/ LDCF/SCCF/NPIF results framework?	Yes, the project is aligned with LDCF results framework	Ok
8. Are the relevant GEF 5 focal/ multifocal areas/LDCF/SCCF/NPIF objectives identified?	Not clear. The project will address CCA objectives 1, 2, and 3. However, Expected Outputs that will contribute towards CCA-3 are not clear. Recommended Action: Please clarify which outputs will contribute towards CCA-3.	The current project design focuses on CCA 1 and 2. CCA-3 was not identified as an output to be addressed in the submitted PIF.
9. Is the project consistent with the recipient country's national strategies and plans or reports and assessments under relevant conventions, including NPFE, NAPA, NCSA, or NAP?	Yes. The project is consistent with three of Vanuatu's NAPA priorities. It is also consistent with the overarching development framework for Vanuatu's Priority Action Agenda (PAA). The project is also aligned with the implementation of National Integrated Coastal Management Framework (NICME).	
10. Does the proposal clearly articulate how the capacities developed, if any, will contribute to the sustainability of project outcomes?	Not clearly. The project plans to build capacity of key national and provincial government agencies, as well as communities, in order to enhance CC governance under Component 3, and support activities of dissemination of information and early warning systems under Component 2. However, linkages between capacity building activities and other project activities that would contribute to the project sustainability are unclear. Recommended Action: Please clarify how the capacities developed in this project will contribute to other activities through the project and ultimately to the project's sustainability. Please see also comment for section 19, for coordination issues that need to be addressed to ensure sustainability.	All capacity development activities will be based on a detailed Training Needs Analysis and design process. All capacity building activities are designed to be clearly linked to long-term sustainability. The component 2 activities have a clear focus in the EWS. Similarly component 3 is clearly focused on institutionalizing approaches developed in component 1 in particular will contribute to mainstreaming CCA into development planning process.
11. Is (are) the baseline project(s), including problem (s) that the baseline project(s) seek/s to address, sufficiently described and based on sound data and assumptions?	Not clear. The project lists as primary baseline, the Vanuatu Transport Sector Strengthening Programme (VTSSP) started in 2009. It is however unclear if this co-financing will materialize considering that the baseline phase I will end in December 2012. Therefore, the financial viability of such baseline is questionable. More importantly, as stated in the proposal VTSSP already implements adaptation approaches and climate-proofing of coastal infrastructure. The other baseline project is a UNDP-	VTSSP has just started Phase II, so there is optimal and close synergies between VTSSP, PWD and V-CAP. The PPG was able to work closely with PWD and VTSSP in design. Clear complementarity is outlined in the project document. The Joint UN (UNDP-UNICEF-FAO) Project is focused on the delivery of demonstration adaption solutions, V-CAP will complement

	<p>UNICEF- FAO project that covers 12 communities, some of which are covered by this proposal. However, this project also incorporates climate change into its interventions, therefore, it is not clear how this project will act as baseline and in which capacity does it build into this project.</p> <p>Recommended Action: Please reconsider the choice of baseline projects such that the role of LDCF funds is clear. Finally, please clarify if the contribution listed in Component 2 by JICA: \$300,000 is also counted as a baseline. If so, please explain how the proposed project will build on JICA's project in terms of monitoring and early warning systems.</p>	<p>that approach by proving an integrated planning framework for communities to develop long term and integrated interventions to build climate resilience.</p> <p>The project will complement JICAs contribution to EWS and the V-CAP support will ensure a full national EWS system will be able to be supported by high quality data.</p>
13. Are the activities that will be financed using GEF/LDCF/SCCF funding based on incremental/ additional reasoning?	<p>Not clear. Given that the description of baseline project is unclear, it is not possible to determine the additional benefits of LDCF funds. Recommended Action: Please see section 11 and also provide adequate and appropriate information to support the additional cost reasoning.</p>	<p>Detailed information provided on baselines.</p>
14. Is the project framework sound and sufficiently clear?	<p>Not entirely. Component 1 does not describe specific actions envisioned for the "hard" and "soft" measures for Output 1.2.2. It is also unclear how ecosystem interventions will build on the baseline and how these will be integrated into the project. On Component 2 explanations on the methods that would be undertaken to improve coverage and forecasts need to be provided. The proposal also needs to expand the explanations of the activities to be undertaken by Components 3 and 4.</p> <p>Recommended Action: Please elaborate on the activities that would be undertaken through the proposed project to clearly support the added adaptation value of the project. Please elaborate on the activities that will comprise the hard and soft measures on Component 1. Please also expand on the activities undertaken by Components 2, 3, and 4. Please revise Output 1.2.1; to link the soft measures to be supported through the project to the baseline project. Finally, please restructure and revise the components as necessary to address comment for section 3.</p>	<p>These matters are address in the full version of the project document.</p>
15. Are the applied methodology and assumptions for the description of the incremental/additional benefits sound and appropriate?	<p>No. See section 11, on comments regarding baseline. Without the clarifications on the baseline, it is difficult to assess a good methodology.</p>	<p>These have been refine in the UNDP Project document.</p>

<p>16. Is there a clear description of: a) the socio-economic benefits, including gender dimensions, to be delivered by the project, and b) how will the delivery of such benefits support the achievement of incremental/ additional benefits?</p>	<p>Yes. Some of the benefits associated with the project are: reduction of costs for damaged infrastructure, socioeconomic benefits related to the restoration of coastal ecosystems on which livelihoods are dependent, gender equality on planning and execution, and potential reduction of loss of lives during CC related natural disasters, enhance food and livelihood security. However, at CEO Endorsement stage, it would be necessary to expand on this section and clarify what specific benefits are expected.</p>	<p>The benefits section has been clarified.</p> <p>In addition, there is a more detailed discussion on the gender and social dimensions, particularly as outlined in the Gender and Social inclusion strategy.</p>
<p>17. Is public participation, including CSOs and indigenous people, taken into consideration, their role identified and addressed properly?</p>	<p>Not clearly. The World Bank is currently implementing a LDCF project "Increasing Resilience to Climate Change and Natural Hazards in Vanuatu" the country. It is unclear how the proposal will build on the WB project. Another UNDP project "Pacific Adaptation to Climate Change (PACC)" is also under implementation in the country. It is unclear how PACC will inform the current proposal, especially concerning hard measures. Moreover, an ADB project "Climate Proofing Development in the Pacific" is currently under review. Finally regarding MESCAL project, please clarify how this proposal will not overlap on governance activities. Recommended Action: Please review the current proposal to build upon the adaptation measures already ongoing in the country and to coordinate with the possible future ones.</p>	<p>Sure. This has been done.</p> <p>There is very close collaboration between the various LDCF projects the WB and V-CAP identified synergies, particularly in relation to the creation of an "enabling policy environment". The links with the ADB project are clear – particularly as there is an urban focus on the ADB project.</p> <p>MESCAL project has been consulted and reviewed as a local model.</p>
<p>20. Is the project implementation/ execution arrangement adequate?</p>	<p>Yes, however detailed information on these arrangements will be needed at CEO endorsement</p>	<p>Provided</p>
<p>24. Is the funding and co-financing per objective appropriate and adequate to achieve the expected outcomes and outputs?</p>	<p>Not entirely. There are some concepts regarding the baseline and related co-financing that needs to be clarified. See Section 11. Indicative co-financing from local government is not stated. Recommended Action: Please clarify the concepts regarding baseline on Section 11 and state the co-financing amount coming from the local</p>	<p>Clarified</p>
<p>United States comments on the PIF</p>		<p>Response</p>
<p>- Articulate an operations and maintenance (O&M) plan for community, provincial and national level infrastructure and early warning system activities. We encourage UNDP to develop and implement standards and basic operating procedures with communities and department heads and staff for routine O&M performance prior to and as a follow up to severe climate change-related events, including clearing of culverts and bridges, testing of equipment, security of structures, and elimination of obstructions.</p>		<p>Noted.. V-CAP will work with VTSSP to demonstrate and trail community based monitoring and implementation of a local O &M plan. This is considered as important.</p>

<p>- Clarify how it will involve coastal communities, government stakeholders, and other key stakeholders in the design and implementation of the project.</p>	<p>Thank you. This is clearly articulated in the Project Document.</p> <p>As a nationally implemented project, the government will lead implementation Component 1 will be delivered through local governance mechanisms.</p>
<p>- Develop a community outreach development plan, which articulates how communities will be reached in the project areas, how the highest priority communities will be identified, how priorities will be developed for specific communities, etc.</p>	<p>This is incorporated into the project document</p>
<p>- Consider Vanuatu's high population growth rate along with its urbanization patterns in developing and assessing community prioritization criteria and the scale of the project.</p>	<p>Yes = population growth is an issue and incorporated into the planning at local level.</p>
<p>- Vet prioritization criteria with other donor organizations, if possible, to avoid duplication of effort or conflicts among organizations on criteria.</p>	<p>Yes, other donors were involved in the site selection process. Consultations were held with other donors to avoid duplication.</p>
<p>- Consult with SPREP, given that it has begun work on meteorological activities in the Pacific.</p>	<p>Yes. Meteorological Office in VMDG assures alignment with SPREP efforts as well as WMO and other partners.</p>
<p>- Coordinate with USAID, which is implementing two adaptation projects in the region: (a) Coastal Community Adaptation Project (C-CAP), which will build the resilience of vulnerable communities to withstand more intense and frequent weather events and ecosystem degradation in the short-term and sea level rise in the long-term; and (b) Mangrove Rehabilitation for Sustainably-Managed Healthy Forests (MARSH), which will restore degraded mangrove areas that have demonstrated resilience to climate change and provide tangible benefits to communities.</p>	<p>Yes. Links and discussions were held with C-CAP and synergies identified.</p> <p>MARSH is will commence in Vanuatu in 2016/2017 and the project will provide important synergies with V-CAP.</p>
<p>- Carefully balance funding and support for community-level infrastructure improvements. It is not clear from the budget level detail how much of the funding and program resources will be directed to communities for community based projects vs. national level activities. While there are many compelling priorities for national level improvements to roads, bridges and other infrastructure, we urge UNDP to prioritize community level climate change adaptation so that communities receive the attention and support they need.</p>	<p>Thank you. Community level adaption activities have been prioritized.</p>

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹⁰

ii. Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF:250,000				
<i>Project Preparation Activities Implemented</i>	<i>Cost Items</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
PROJECT PREPARATION GRANT TO FORMULATE A FULL SIZE PROJECT – ADAPTATION TO CLIMATE CHANGE IN THE COASTAL ZONE IN VANUATU		<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
	Local Consultant	45,000	15,966.50	29,033.50
	International Consultants	80,000	33,647.35	46,352.65
	Travel	100,000	49,582.44	50,417.56
	Meeting/Consultation/ Workshop Costs	25,000	18,636.78	6,363.22
	Total	250,000	117,833.07	132,166.93

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)

¹⁰ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.