



## Vanuatu Programme

2015



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## I. The climate change adaptation context in Vanuatu

A 2012 United Nations report assessed Vanuatu as one of the most highly exposed countries to disaster risks in the world<sup>i</sup>. Vanuatu is vulnerable to a range of climate and geological hazards including volcanic eruptions, earthquakes, tsunamis, cyclones, climate variability, storm surge, landslides, droughts and flooding. A profile of risks from climate change and geo-hazards in Vanuatu has been developed including the following findings on current and future climate risks:

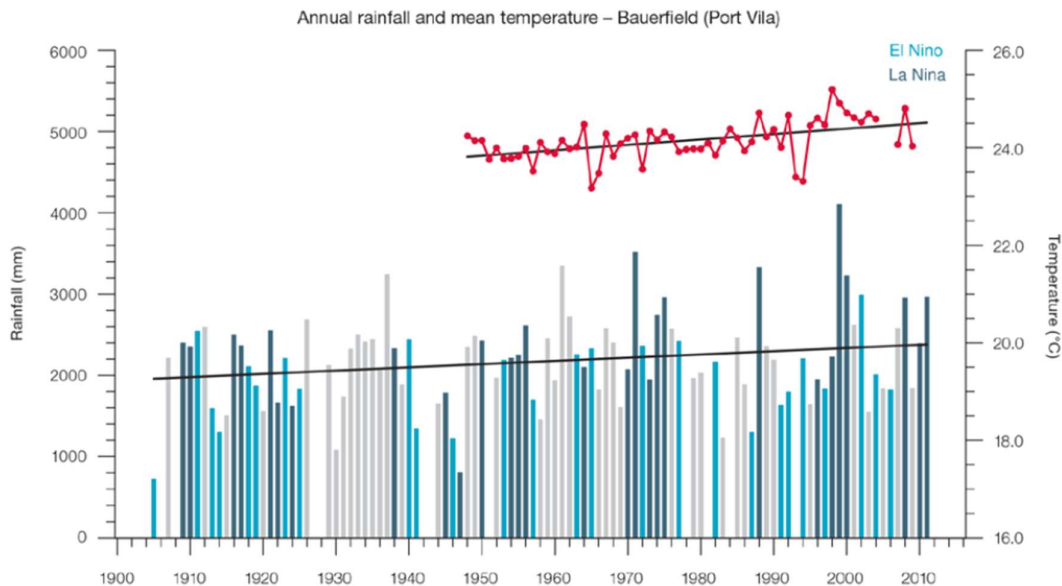
- by 2040 daily temperatures will increase from 1995 levels by 1.2 degrees Celsius;
- sea level rise will continue and accelerate;
- ocean acidification will degrade 80 percent of coral reefs within 20 years;
- extreme temperatures will reach higher levels and become more frequent;
- extreme weather events including cyclones and storms will increase in intensity, but not necessarily in frequency;
- dry periods will have a longer duration; and
- extreme rainfall will be more frequent and intense.

Potential climate impacts on Vanuatu's agriculture, fisheries, forestry, tourism, health, transport and infrastructure sectors were considered. Projected consequences of climate change include; reduced availability of fresh water; shifts in crop seasonality of harvest, planting and fruiting; more pests and diseases for animals, crops and trees; salt water inundation and intrusion of coastal land and groundwater; compromised food security; coral reef deterioration; reduced fisheries' productivity, increased risk of human disease and health problems including vector borne disease transmission and heat related illness; damage to infrastructure; loss of coastal land; and reduced economic growth and revenue generation.

# Current Climate Change Profile<sup>1</sup>

## 1.1 Temperature

Over the period 1948–2011, maximum and minimum temperatures at Bauerfield Airport (Port Vila) increased as did November–April and May–October maximum temperatures at Aneityum. These temperature trends are statistically significant at the 5% level.



Above Figure from the Australian Government's Pacific Climate Change Science Programme: *Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports 2014*. Observed time series of annual average values of mean air temperature (red dots and line) and total rainfall (bars) at Bauerfield Airport (Port Vila). Light blue bars denote El Niño, Dark blue La Niña, and Grey normal years. Solid black trend line indicates a least squares fit.

There is *very high confidence* that temperatures will rise into the future. Under all climate model projections, the warming is up to 1.0°C by 2030, relative to 1995. Thereafter warming projections are diverse across various models, for example by 2090, a warming of 1.9–4.0°C is projected for Representative Climate Pathway (RCP) 8.5 while a warming of 0.3–1.2°C is projected for RCP2.6. While relatively warm and cool years and decades will still occur due to natural variability, there is projected to be more warm years and decades on average in a warmer climate. Dynamical downscaling of climate models from the Australian Bureau of Meteorology suggests that temperature rises may be about 0.3°C greater over land than over ocean in Vanuatu.

<sup>1</sup> From the Australian Government's Pacific Climate Change Science Programme: *Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports 2014*.  
[http://www.pacificclimatechangescience.org/wp-content/uploads/2014/07/PACCSAP\\_CountryReports2014\\_Ch16Vanuatu\\_WEB\\_140710.pdf](http://www.pacificclimatechangescience.org/wp-content/uploads/2014/07/PACCSAP_CountryReports2014_Ch16Vanuatu_WEB_140710.pdf)

## 1.2 Rainfall

Notable inter-annual variability associated with the ENSO is evident in the observed rainfall records for Bauerfield Airport since 1907, and annual and half-year rainfall trends show little change at Bauerfield Airport. Due to large year-to-year variability, there are no significant trends in the daily rainfall indices.

## 1.3 Tropical Cyclones

Tropical cyclones affect Vanuatu most commonly between November and April. Between the 1969/70 and 2010/11 seasons, 101 tropical cyclones developed within or crossed the Vanuatu EEZ. This represents an average of 24 cyclones per decade, although the interannual variability in the number of tropical cyclones in the Vanuatu EEZ is large, ranging from zero in 2001/02 to six in 1991/92. Twenty-nine of the 71 tropical cyclones (41%) between the 1981/82 and 2010/11 seasons were severe events (Category 3 or stronger) in the Vanuatu EEZ. Category 5 Cyclone Pam devastated much of the country in March 2015, including all SPC/GIZ CCCPIR programme pilot site activities on Pele and Teouma. Vanuatu is projected to experience a decrease in the frequency of cyclone genesis (formation), with a medium confidence level.

## 1.4 Ocean Acidification

As atmospheric CO<sub>2</sub> concentrations continue to rise, Vanuatu's ocean will warm and continue to acidify. These changes will impact the health and viability of marine ecosystems, including coral reefs that provide many key ecosystem services (*high confidence*). These impacts are also likely to be compounded by other stressors such as storm damage, fishing pressure and other human impacts. In Vanuatu the aragonite saturation state has declined from about 4.5 in the late 18th century to an observed value of about 3.9±0.1 in the year 2000. All models show that the aragonite saturation state, a proxy for coral reef growth rate, will continue to decrease as atmospheric CO<sub>2</sub> concentrations increase (*very high confidence*).

## 1.5 Coral Bleaching

As the ocean warms, the risk of coral bleaching increases (*very high confidence*). There is *medium confidence* in the projected rate of change for Vanuatu because there is *medium confidence* in the rate of change of sea surface temperature. Overall there is expected to be a decrease in the time between two periods of elevated bleaching risk and an increase in the duration of the elevated bleaching risk in the future. If severe bleaching events occur more often than once every five years, the long-term viability of Vanuatu's coral reef ecosystems becomes threatened.

## 1.6 Sea Level Rise

Mean sea level is projected to continue to rise in Vanuatu over the course of the 21<sup>st</sup> century. There is *very high confidence* in the direction of change. The CMIP5 models simulate a rise of between approximately 8–19cm by 2030 (very similar values for different RCPs), with increases of 42–89 cm by 2090. This could change substantially depending on the sea level rise contribution from the Antarctic ice sheet. Inter-annual variability of sea level will lead to periods of lower and higher sea levels in Vanuatu, with variability up to about 18 cm.

## II. Climate Adaptation Context

Adaptation to climate change and risk management of natural hazards is one of the core development issues for Vanuatu. According to the highest level Government policy, the Priority Action Agenda<sup>2</sup>, “social and economic development in Vanuatu will continue to be affected by climate change, underlining the need to mainstream disaster risk reduction and disaster management (DRR&DM) and climate change adaptation into national planning and budgetary processes.” The Government of Vanuatu is currently preparing a 15-year National Sustainable Development Plan (NSDP) for endorsement proposed to come into operation in 2016. It will incorporate three pillars, Economic, Environment and Social, underpinned by focus on Culture. Like its predecessor the Priorities and Action Agenda 2006 – 2015 (PAA) and its Plan Long Act Short 2013 – 2016 (PLAS) document, the new NSDP identifies climate change and disaster risk reduction as key priorities for government. This Policy aligns with the direction of the NSDP. The new National Climate Change & Disaster Risk Reduction Policy aims to “integrate and strengthen climate change adaptation and disaster risk reduction initiatives across national, provincial and local levels, and across all sectors.

There have been incredible successes in Vanuatu’s climate change adaptation goals and implementation, largely since the SPC/GIZ Coping with Climate Change in the Pacific Island Region commenced operations in 2009, and as outlined in this summary report. Traditional knowledge and cultural practices are an essential element of Vanuatu’s high resilience and successful adaptation activities to date. In addition to traditional practices, other climate change and disaster risk reduction interventions are relatively new and rapidly growing areas requiring increasing levels of planning and coordination. This is particularly evident given the large number of actors involved in this work in Vanuatu, including: government at all levels, sectors, donors, regional bodies, academic institutions, CSOs and communities. As a country highly vulnerable to climate and disaster risks, with limited resources and competing needs, it is crucial to use existing and potential resources more strategically and effectively. Agencies commonly have climate and/or disaster human resources now in their structure as well as dedicated sectoral units, for example the Ministry of Agriculture’s newly launched Risk and Resilience Unit<sup>ii</sup>.

Vanuatu has seen great success mainstreaming climate change and disaster risk reduction into sector policies<sup>iii</sup> including the Overarching Productive Sector Policy, National Forest Policy, Agriculture Sector Policy, National Curriculum Statement, National Environment Policy, Tourism Strategic Action Plan, National Land Use Planning Policy and the National Livestock Policy. Vanuatu’s Disaster Risk Reduction and Disaster Management National Action Plan 2006-2016 (DMNAP) maps out priorities and a pathway for disaster risk reduction and management, although it has not yet been fully revised to fully address climate change considerations.

However despite the resounding successes, several development challenges continue to limit the country’s ability to respond effectively to climate variability and change such as (i) political instability and weak institutions, (ii) unequal distribution of economic benefits gained from existing policies, (iii) disparities in income distribution and access to basic services, (iv) increased urban migration into temporary and makeshift settlements, and limited employment opportunities in urban centers, (v) limited and poor infrastructure, and (vi) increased environmental degradation including deforestation, loss of topsoil, and deterioration of the quantity and quality of water supplies.

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<sup>2</sup> [http://www.nab.vu/sites/all/files/documents/14/11/2013%20-%2009%3A53/paa\\_2012\\_update.pdf](http://www.nab.vu/sites/all/files/documents/14/11/2013%20-%2009%3A53/paa_2012_update.pdf)

### III. Programme Background and Objective

#### Quick facts

- Project duration: 01/2009 - 12/2018
- Total programme budget: EUR 19.2 million; funded by the German Federal Ministry for Economic Cooperation and Development (BMZ)
- Co-fundings:
  - European Union under the programme 'Adapting to Climate Change and Sustainable Energy (ACSE)' EUR 18,64 million
  - EU 'Global Climate Change Alliance (GCCA)' programme in Timor-Leste EUR 1,9 million
  - USAID USD 1 million for climate change activities in the Solomon Islands
  - Swiss DEZA Emergency Cyclone Pam funding of EUR 188,000
  - German Embassy Emergency Cyclone Pam funding of EUR 240,000
  - IKI-IRENA-GIZ finance for Renewable Energy Awareness EUR 12,000
  - GIZ Global Program on Loss and Damage and UNFCCC Support EUR 50,000
- Implementation Partner: Pacific Community(SPC) in close collaboration with Secretariat of the Pacific Regional Environment Programme (SPREP)
- Project Countries: Federated States of Micronesia, Republic of Fiji, Kiribati, Republic of the Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, the Solomon Islands, Tonga, Tuvalu and Vanuatu

#### Programme objective and structure

The overall aim of the program is that the capacities of regional organisations in the Pacific Islands region and its member states to adapt to climate change and mitigate its causes are strengthened.

The programme is structured in 6 components:

- (1) Strengthening regional advisory and management capacity;
- (2) Mainstreaming climate considerations and adaptation strategies;
- (3) Implementing adaptation and mitigation measures;
- (4) Sustainable tourism and climate change;
- (5) Sustainable energy management;
- (6) Climate change and education.

Focal areas and activities are determined by Vanuatu's national priorities based on identified needs and gaps, which differ among other CCCPIR countries. Information and knowledge sharing among countries is supported to maximize benefits and disseminate best practices across the Pacific. Gender issues are considered in all areas of planning and implementation. CCCPIR builds on, complements and closely collaborates with existing and proposed initiatives at the regional and national levels.

#### CCCPIR national focus in Vanuatu

In Vanuatu, The CCCPIR programme aims to fit into and enhance the existing matrix of donors and adaptation initiatives in Vanuatu, rather than duplicate and/or compete with them. CCCPIR has been able to immediately and flexibly enable members of the National Advisory Board on Climate Change

and Disaster Risk Reduction (NAB) to trial and make an initial start on urgent climate adaptation activities while awaiting major climate funding from the Green Climate Fund recently established.

The programme is directly aligned with the policy priorities of the Government of Vanuatu, specifically towards implementing the **Priorities & Action Agenda's Strategic Priority #4 on Climate Change**. The programme has helped shape much sectoral policy and continues to aid in implementation, specifically the **Overarching Productive Sector Policy's Area #5 on Resilience, the National Forest Policy's Directive #4 on Climate Change, the National Land Use Planning Policy's area #13 on Risk and Vulnerability** and a host of others at the national, provincial and local level. The CCCPIR activities are intended to be flexible, fill gaps in other, larger projects, be hands on and ground based, and expand NAB's toolbox from which "tried and tested" community adaptation activities can be pulled to respond to questions and requests from villagers throughout Vanuatu. This approach has been tested successfully within the existing stakeholder networks including the Vanuatu Climate Action Network (VCAN), the Vanuatu Humanitarian Team (VHT), the Food Security and Agriculture Cluster (FSAC), and Risk and Resilience Unit (RRU) of the Ministry of Agriculture. All CCCPIR lessons learned<sup>3</sup> have been and will continue to be documented and shared freely among stakeholders for the widest possible impact.

### CCCPIR Components and Outcomes in Vanuatu

To achieve the overall objective, the six project components have been collaboratively developed with leaders in Vanuatu and other countries, under which national programme activities have been aligned. The first component is cross-sectoral and regional in nature, focusing on organizational, strategic and technical advice. The aim here is to improve the capability and coordination of the regional organizations in the interaction between, in the donor community and in cooperation with the countries. Component 2 predominantly supports national policies relating to the management of natural resources. Component 3 is closely linked with component 2 and aims to support the implementation of specific adaptation and mitigation measures and technologies, particularly at local and national level. Components 4 and 5 relate to tourism and energy management in a sectoral, multi-level manner. Component 6 supports mainly educational institutions (teacher training, schools, providers of non-formal training) and works closely with relevant regional organizations (USP, SPBEA).

### National implementation and steering structures

CCCPIR Vanuatu has been heavily engaged in supporting Vanuatu to improve and strengthen the governance of climate change projects and programme at a national level. At present, the CCCPIR programme is broadly governed under oversight of NAB Chair and Director General of the Ministry of Climate Change, Jotham Napat. CCCPIR operational decisions are taken in consultation with relevant Department Heads, departmental technical staff, and officers according to the nature of the project or activity. For example, the Vanuatu Livestock Policy climate mainstreaming activity was designed and implemented under the oversight of the Director of Livestock and Director General of the Ministry of Agriculture. This decentralized sectoral governance approach has ensured that sectors fully own adaptation action, and that technical support is targeted, relevant and flexible to local needs. CCCPIR programme results are then presented back to NAB through sectoral heads, meaning that nearly all

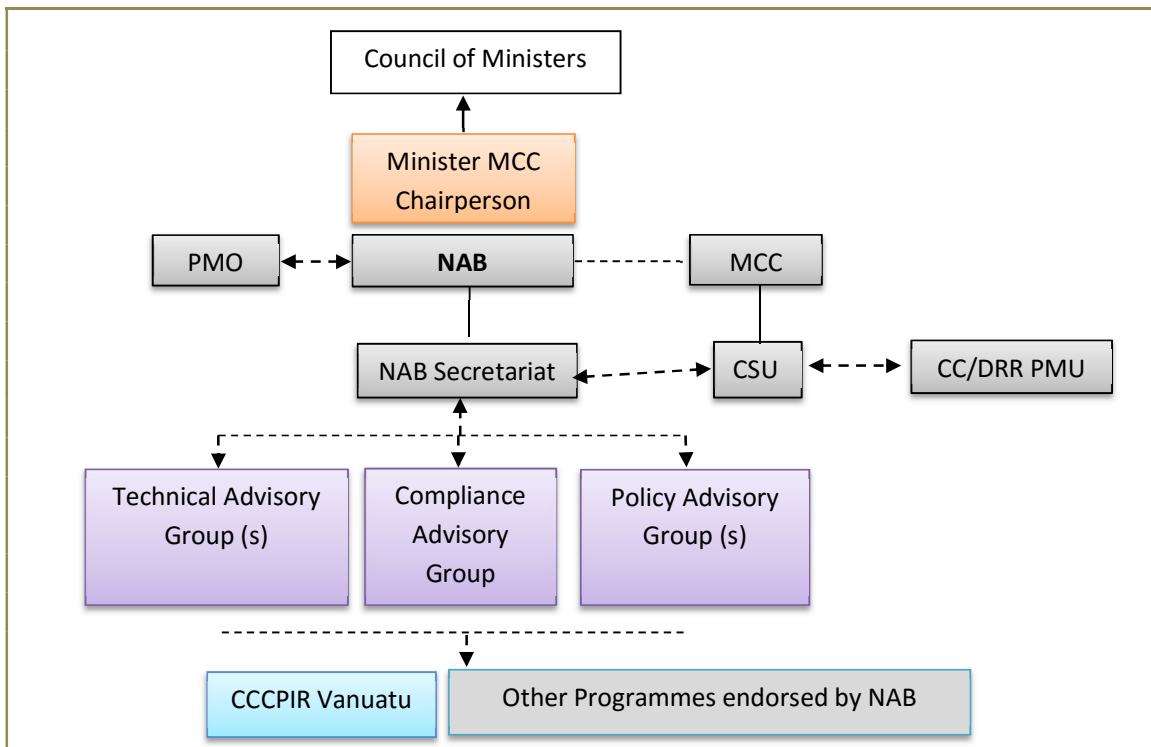
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<sup>3</sup> <http://www.nab.vu/projects/coping-climate-change-pacific-island-region-spc-giz>



of CCCPIR’s support is presented not as belonging to “GIZ” or “SPC” but as owned by departments and agencies themselves.

In 2012, the Government of Vanuatu established, with the support of CCCPIR, new institutional arrangements for joint governance of climate change and disaster risk reduction through the National Advisory Board on Climate Change & Disaster Risk Reduction (NAB) and a Climate Change/Disaster Risk Reduction Project Management Unit (CC/DRR PMU) within the Vanuatu Meteorology and Geo-Hazards Department (VMGD). This represented a proactive approach to integration in key governance structures at national level. Dedicated NAB Secretariat positions are now being established to support NAB oversight of climate change and disaster risk reduction initiatives across Vanuatu. Representation of a broad range of agencies, together with CSOs on the NAB, provides a framework for CCCPIR mainstreaming across sectors and inclusive planning and decision-making. CCCPIR has a standing invitation by the chair to participate in and contribute to all NAB meetings.



### GIZ services provided

CCCPIR in Vanuatu pursues a multi-level approach (regional, national, and sub-national/local), and works jointly with multiple government sectors and civil society actors. In view of the limited human and financial capacities of local agencies, a regional approach has vital to achieve planned results. Exchanging experiences and South-South knowledge transfer about local, gender specific impacts of climate change and adaptation options is only possible as part of the CCCPIR’s regional approach. Experience gained at local level and by private actors has percolated up to provincial, national and regional levels and is used to develop additional conditions and services for adapting to climate change and reducing greenhouse gases.

The German input to CCCPIR in Vanuatu has primarily involved: expert, organizational, process, strategy and policy advice by international, regional and national short- and long-term experts, basic and more advanced training, and the supply of materials and equipment.

CCCPIR Vanuatu takes a proactive approach towards capacity development, moving beyond the old model of “expert + local counterpart.” The CCCPIR Vanuatu programme works with dozens of counterparts at different times and levels to ensure that capacity is strengthened in a holistic and targeted way. The goal is to strengthen the skills of local partners and local institutions so they themselves can respond to the various areas of need. In this regard, CCCPIR has undertaken and supported a number of trainings and training of trainers for government and non-governmental agencies, local communities and civil society groups. Most trainings are ongoing over a period of years (e.g. Climate Zone Quiz) with practical applications. Through CCCPIR Vanuatu’s work, the nation now has a pool of high capacity local experts from most Government agencies, as well as from local communities who can plan, implement and evaluate adaptation at all levels. CCCPIR has a strong internship programme, now having trained and built the professional capacity of over 10 ni-Vanuatu youth. CCCPIR recognizes the various expertise and skills existing in government agencies and strives to enhance these skills by - exposing local experts to new developments in their areas of expertise (e.g. participation in regional and international workshops like the UNFCCC climate negotiations in 2014 and 2015).

## IV. Key achievements of CCCPIR

### Mainstreaming climate considerations & adaptation strategies

From 2011-2015, Vanuatu’s Ministries and national stakeholders responsible for climate change have been supported by CCCPIR to undertake climate analyses, strengthen knowledge management, broaden adaptation processes, utilize a variety of tools and refine climate change adaptation strategies. In essence, much of CCCPIR Vanuatu’s work has been geared towards mainstreaming climate considerations into everyday development.

**Cyclone Pam** reinforced to the nation of Vanuatu the critical need to mainstream climate change planning into its development pathways. The CCCPIR programme was immediately available to support Government and communities in the lead up and response to Cyclone Pam. Putting the entire CCCPIR normal operations on hold, the GIZ office and all of its human and financial resources were diverted to the Food Security & Agriculture Cluster. CCCPIR organized meetings, chaired high-level briefings, reached out to partners and donors from around the world, monitored and evaluated actions on-ground, and established new institutional frameworks to cope with future climate-related disasters. The **Ministry of Agriculture’s new Risk and Resilience Unit**, supported by CCCPIR, is the first of its kind in Vanuatu, enabling a Ministry to improve coordination among all stakeholders and take full ownership of national recovery programming. CCCPIR supported Government to undertake initial disaster food needs assessments, develop national food relief plans, coordinate and oversee food aid distributions on 20 islands for over 200,000 people, disseminate tools, seeds and planting materials for affected communities, and develop long term recovery plans. Emergency data collection was done utilising new and cutting edge technologies, including sms-platforms. A **National Food Security**

**Recovery & Rehabilitation framework** was compiled within weeks after the disaster to include over 90 national programmes and projects costed to a value of around USD 50million. This framework led to the development of the **National Government's Cyclone Plan Recovery Plan** and the subsequent reconstruction aid that is now flowing to the Ministry of Agriculture.

A key area of CCCPIR programme support to the Vanuatu government has been the restructuring and institutional reform of national climate change and disaster risk reduction governance. From the outset in 2011, CCCPIR has supported Government to implement and strengthen the **National Advisory Board on Climate Change and Disaster Risk Reduction (NAB)**, the supreme policy making and coordination body on these issues. Specifically, CCCPIR has worked alongside and built the capacity of staff, volunteers and technical advisors to plan for and reform the **NAB Secretariat**. The technical advisor of CCCPIR Vanuatu was invited in 2014 to sit on the executive **NAB Taskforce** and in 2015 on the **NAB's UNFCCC Taskforce**.

In addition to supporting Government, the CCCPIR actively works with civil society stakeholders, and is a founding member of the **Vanuatu Climate Action Network (VCAN)** an association of climate non-government organizations, and the **Vanuatu Humanitarian Team (VHT)**. CCCPIR participates actively in the working arm of these bodies known as the **Climate Change Disaster Risk Reduction Working Group**. In addition, CCCPIR provided technical support to the **Department of Local Authorities (DLA) Working Group** on provincial assessments, and the **National Environment Technical Working Group** in policy development.

CCCPIR Vanuatu has enabled mainstreaming at the national level including preparation towards Vanuatu's new **National Sustainable Development Plan 2016-2030** including technical support to the Prime Minister's Office, the Department of Environment, the Melanesian Spearhead Group and IUCN (with direct financial support from CCCPIR to IUCN of EUR 20,000). This plan is nearing completion and will incorporate sustainability principle of climate change and disaster risk reduction, building on the government's current **Priorities & Action Agenda** in which CCCPIR helped to mainstream climate change.

The new Ministry of Climate Change has been supported strongly by CCCPIR since its establishment in 2012 to undertake national and provincial consultations and redraft the **National Climate Change and Disaster Risk Reduction Policy**, which will expand on and succeed other CCCPIR supported documents including the draft **National Climate Change Adaptation Strategy**. To provide enforcement mechanisms for the Policy, the CCCPIR programme provided detailed technical input into the draft **Meteorology and Climate Change Act** which is due to be passed in 2015.

At the sectoral level, CCCPIR has supported mainstreaming of climate change resilience throughout policy and planning documents at multiple levels, most recently in the **National Livestock Policy** and the **Vanuatu Agriculture Sector Policy**. This mainstreaming work builds on that already completed by CCCPIR including policy support on the **National Forest Policy, Vanuatu Energy Roadmap, Foreshore Development Act, Physical Planning Act, National Land Use Planning Policy, and Overarching Productive Sector Policy, National Tourism Strategic Action Plan, National Gender Policy, and the Vanuatu REDD+ Policy**. The newly launched **Guidelines for Community Conservation Areas**, also now include climate risk considerations.

For years, CCCPIR has trained Government and Provincial Officers of SHEFA Province on climate change mainstreaming, launching its **TRACES Climate Mainstreaming Approach** for Vanuatu, as well as directly working with Provincial secretary-generals and climate/disaster officers in TAFEA, SHEFA, MALAMPA, SANMA and TORBA provinces. Specifically, CCCPIR has supported MALAMPA Province to develop the **MALAMPA Climate Change & Disaster Risk Directive**, and TAFEA Province to refine the **TAFEA Provincial Climate & Disaster Plan**. CCCPIR programme has provided technical support to the Vanuatu Meteorology and Geohazards Department, and the Vanuatu Cultural Center to develop a draft **Guideline on Traditional Knowledge related to Climate Change**. The guidelines have been employed on 10 islands during collections of traditional indicators of climate.

Climate change is now becoming more and more mainstreamed into sector activities, as evidenced by range of Bislama-language locally developed climate Guidebooks and Manuals developed by CCCPIR including a **Glyricidia Resilience Manual, Fuel Efficient Rocket Stove Manual, Rapid Area Council Vulnerability Tool, Tilapia-Poultry Adaptation Manual, Fish Aggregating Device Factsheet, Crown of Thorns Composting Guidelines, Citrus Grafting Manual, Yam Vine Cutting Manual, Taro Seed Collection Manuel, Yam Miniset Manual, Alley Cropping Manual, Honey Bee Husbandry Manual, French/Samoan Banana Multiplication Guidebook, Vetiver Grass Manual, Marae Traditional Banana Preservation Manual, Coastal Erosion Factsheet, Gender and Climate Toolbox, Tilapia Manual, Forest Nursery Adaptation Guidebook, Livestock Husbandry and Climate Change Manual, Solar Fruit Drying Manual**. All CCCPIR Manuals and Factsheets are freely available and downloadable<sup>4</sup> on the NAB Portal [www.nab.vu](http://www.nab.vu).

Informed members and skilled trainers of the different sectors of the society are the basis for a sustainable change. Specific capacity building activities undertaken by CCCPIR in Vanuatu have included training with **ACTIV Women's Association, Musicians of Fes Napuan Music Festival, the Catholic Church, Cost-Benefit Analysis training, US Peace Corps Volunteers** and the Counterparts, the **Food Security and Agriculture Cluster, Members of Parliament**, participants of the **National Climate and Youth Symposium** as well as the capacity development of **departmental directors and DGs, training of journalists, training for agriculture extension officers, training of lecturers and teachers at VITE and USP, and practical training on CC adaptation with communities, field school with provincial area secretaries, and mainstreaming training with government sector officers**.

The CCCPIR programme has developed Vanuatu's first **Bislama-language DVD series on Climate Change** in Vanuatu including **Climate Change, El Nino and Agriculture, Climate Change Overview, Climate Change & Agriculture, Climate Change & Food Security, Climate Change and Marine Resource Management, and Climate Change and MPAs, Climate Change and Traditional Knowledge, Climate Change Adaptation on Pele, Climate Change & Gender, Climate Change & Coastal Erosion, COT online DVD, Coral Mariculture, Climate Tourism and Waste, Cloud Nasara Animation, Climate Solar Dryer and Climate Change & Vetiver** which have been disseminated to over 30 islands and over 800 communities in Vanuatu.

The CCCPIR programme has been a founding partner in the rollout of and training activities on Vanuatu's first dedicated **Climate Change and Disaster Risk Reduction WebPortal**, [www.nab.vu](http://www.nab.vu),

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<sup>4</sup> <http://www.nab.vu/projects/coping-climate-change-pacific-island-region-spc-qiz>

which serves a national coordinating function with a project database, resource database, contact list, calendar of events, and adaptation strategy matrix.

Equally important for ensuring climate mainstreaming in Vanuatu is the sustained presence of CCCPIR on the **Vanuatu Climate Change Facebook Page**<sup>5</sup>. As of 30 September 2015, CCCPIR’s Facebook page had 4,328 friends, and was being followed regularly by 291 people.

The CCCPIR programme has supported Vanuatu’s participation in the **Melanesian Spearhead Group (MSG)** and the MSG Environment and Climate Change Technical Advisory Committee. CCCPIR also provided financial resources for the **Climate Change Technical Expert** now based at the MSG in Port Vila.

Mainstreaming climate change requires that the general public identifies with and has the opportunity to express their climate-related aspirations. To this end, CCCPIR has become a board member of the annual **Fest Napuan music festival**, the largest in the Pacific. In 2014 the stringband showcase featured bands with climate adaptation compositions, which has led in 2015 to the overall theme of climate change and disaster risk reduction. With international bands, sponsors and a week-long series of hands-on activities, the Vanuatu public will have their greatest opportunity yet to share and learn about climate change adaptation.

For the fourth year in a row, CCCPIR has technically supported the Vanuatu Government to prepare for and execute climate change negotiations under the UN Framework Convention on Climate Change (UNFCCC). In 2015 CCCPIR became the Secretariat of the NAB’s UNFCCC Taskforce, designing and supporting a national preparatory programme leading towards **COP21 in Paris, France**. Of note related to Vanuatu’s UNFCCC aspirations have been CCCPIR’s support in drafting **Submissions to UNFCCC on the Green Climate Fund, Finance, Gender and Adaptation**, as well as major revisions to the **Second National Communication**. With CCCPIR’s support, the delegation has opened up national priority development to the public through civil society engagement at all levels.

Activity	Date	Description	Beneficiaries
Climate Change & Disaster Risk Reduction Policy	14 February; 6 March; 10 March; 21 May	Consultations and meetings regarding the national policy finalization and launching	280 females, 245 males
UNFCCC Taskforce & COP21 Delegation	23 February; 30 June; 12 August; 21 August	Specialized Taskforce and Delegation established under the NAB that coordinated mainstreaming preparation and finance for UNFCCC COP21	22 females, 38 males
Vanuatu National Sustainable Development Plan	2-3 March; 9 March; 11 March; 18 June; 9 July; 14-17 July; 27 July; 7 August, 10 August; 31	Mainstreaming of climate change and adaptation into Government’s new national development policy	4 females, 10 males

<sup>5</sup> <https://www.facebook.com/climatechange.vanuatu>

	August; 4 September; 7-9 September;		
Pele Island Development Committee	8 March	Training with chiefs and community leaders on mainstreaming opportunities for climate change in their island development plans	20 females, 35 males
Agribusiness and Climate Mainstreaming	22-26 June	Major workshop with Agribusiness stakeholders to mainstream resilience and climate change adaptation into planning; proposal development for major ICT reforms	45 females, 50 males
National Agriculture Policy	26 June	Development, consultation and launching of the new National Agriculture Policy including climate change issues	112 females, 230 males
Meteorology Act	10 July	Meeting with stakeholders to ensure that climate change is fully mainstreamed in the new Meteorology Act	20 females, 32 males
National Livestock Policy	20 July	Development, consultation and launching of the new National Livestock Policy including climate change issues	35 females, 60 males
Loss & Damage Assessment	19-25 October	Comprehensive review of the issues of Loss & Damage as affecting the people and Government of Vanuatu, used to strengthen COP21 negotiating positions under UNFCCC	34 females, 80 males

## Implementing adaptation & mitigation measures

Throughout the life of the programme, CCCPIR has supported government and civil society actors responsible for climate change and adaptation in designing and carrying out suitable adaptation and mitigation demonstration and pilot measures. Advisers have supported communities in the participatory planning, implementation and reviewing of adaptation efforts.

In Vanuatu, Component 3 focuses on the implementation of adaptation and mitigation measures, particularly at the community level. Implementing model projects on climate change adaptation on pilot sites has been of crucial importance in order to gather experiences on the ground and feed them back into the national strategic and policy development processes and create success stories of concrete adaptation measures. Pilot site activities have continued in the two sites selected in 2010 through an intensive consultation process:

**Pele Island**, susceptible to the climate change impacts of sea level rise, coastal inundation, rainfall variability, soil nutrient loss, and coastal & hillside erosion.

**Teouma Community**, Efate Island, susceptible to climate change impacts of rainfall variability, soil nutrient loss, high wind exposure, and excessive temperatures.

Adaptation options for field trials were developed by government technical experts reflecting national priorities and building on the results of **detailed Vulnerability and Adaptation Assessments** carried out in the pilot sites. Recently the CCCPIR programme has worked in collaboration with SHEFA province to develop a new **methodology for rapid climate vulnerability assessment**, and successfully trialed the approach with local area secretaries and councilors, developing a **Nguna-Pele Climate Vulnerability Hotspot Map**.

In Teouma, resilient varieties of kumala and island cabbage were planted and evaluated from the cultivars provided by the Vanuatu Agriculture Research and Training Center (VARTC). After trials, crops were harvested and distributed to key farmers for multiplication and further trials in their local areas within south of Efate. New techniques for improving soil fertility were trialed including soil sterilization methods locally called 'Black magic' well as liquid fertilizer production and composting. In the context of Cyclone Pam and El Nino, Teouma key farmers have organized briefings for their communities and are trialing water-saving agricultural measures.

Pele Island is one of the CCCPIR's main trial areas for adaptation innovations, primarily intended to trial a huge range of potential interventions, and identify the few that could be realistically upscaled to other parts of the country. In this context Pele has been a great success. In identifying both the technical and governance challenges and barriers to specific adaptation actions, through some failed initiatives on Pele, the CCCPIR programme has been able to provide a value added service to all climate change programmes in Vanuatu through its production of manuals, and field schools to ensure that other programmes can learn and benefit from the Pele trials. Some of the successful initiatives on Pele have become standard climate adaptation responses for all communities throughout Vanuatu.

Demonstration activities being trialed and evaluated from 2011 on Pele have included: **Coastal & Hillside Erosion Control Measures through Forestry, Soil Enhancement & Composting, Crop Diversity Trials for Climate Resilience, Adapted Farming System designs for CC Resilience, Livestock Breeding**

**Trials for CC Resilience, Integrated Agriculture & Livestock Systems, Community Gardening for Food Security, Water Saving Drip Irrigation, Tourism Sponsorship for Adaptation, Coral Mariculture, Crown of Thorns Starfish Composting, Marine Resource Management, Solar Fruit Drying and Food Preservation, Steam Cooking Systems, Silage Livestock Feed technologies, Citrus Grafting technologies, Fish Aggregating Devices, Banana and Yam multiplication technologies, Composting Toilet technology, Tilapia Backyard Urban Food Security, Honey Bee Husbandry enhancement, and Livestock Biogas technologies.**

In 2015, **severe tropical Cyclone Pam** cause near complete devastation in both Teouma and Pele. CCCPIR is proud of its immediate response in the pilot sites, from CCCPIR core budget but also through food aid provided by the German Ministry of Foreign Affairs, and agricultural relief with support from the Swiss Governments' DEZA, providing food, gardening tools, agricultural planting materials, technical input, water tanks, and more. The people of Teouma and Pele, are now, despite being in the midst of an increasingly severe El Nino drought, more resilient and food secure than before the cyclone. Specifically, the CCCPIR programme supported the Nguna-Pele Area Council to establish over **30 communal food gardens** on the islands of Nguna, Pele and Emau including tools, expert agricultural advice, seeds, planting materials, irrigation equipment and protective fencing. In a matter of weeks, the communities were producing hundreds of kilos of fresh vegetables for consumption and sale in the local markets. Over **3000 chicks** were distributed to households on Nguna and Pele islands, enabling a regular source of protein for cyclone-affected families. To better understand how the impacts of climate-related disasters can be reduced, CCCPIR will in October 2015 undertake Vanuatu's first ever **Loss and Damage climate change assessment** at the Pele pilot site to better inform UNFCCC negotiations in this area.

Several **short films** on pilot adaptation activities have been produced, which have been used by other programmes and communities to guide their strategic adaptation planning:

- Pele Coral Planting [https://www.youtube.com/watch?v=nx-1LW\\_cXH0](https://www.youtube.com/watch?v=nx-1LW_cXH0)
- Gender and Climate Change; <http://apidae.com.au/A2C2/video/gender-health-and-climate-change-a2c2-vanuatu/>
- Coastal Erosion and Climate Change; <http://apidae.com.au/A2C2/video/coastal-erosion-and-climate-change-a2c2-vanuatu/>
- Crown of Thorns; <http://webdocs.dw.de/vanuatu/english>
- Teouma Pilot Site; [http://tvdownload.dw.de/Events/mp4/globalideas\\_en/globalideas\\_en20120806\\_vanuatu\\_s\\_d.mp4](http://tvdownload.dw.de/Events/mp4/globalideas_en/globalideas_en20120806_vanuatu_s_d.mp4)

CCCPIR places a strong emphasis on partnerships and collaborations; specifically finding ways to value add through multi-partner implementation. In this regard, CCCPIR has initiated several unique partnerships for climate change adaptation:

- Partnership with the Nguna-Pele Marine and Land Protected Area Network, the Coral Triangle Initiative, ADB, ANZDEC, and the Department of Environment to run a **train-the-trainers programme for over 50 climate change community champions** from throughout Vanuatu. The weeklong training in August 2015 saw hands-on learning in areas from food preservation to coral reef management for climate resilience, the first time a local island organization has run a South-South exchange for other ni-Vanuatu communities.



- Joint initiative among the European Union, USAID, the University of the South Pacific, the Nguna-Pele Marine and Land Protected Area Network and CCCPIR on **ridge to reef community-based adaptation** implemented (16 communities on North Efate)
- Joint CC Consortium multisectoral **community-based adaptation** programme in implementation among CCCPIR, Oxfam, Care, Red Cross, VRDTCA (28 communities in Tanna and Torba Province)
- Joint Initiative on CC and **water resources adaptation** among CCCPIR, SPC-SOPAC IWRM and Sanma Provincial Government (6 communities in Sarakata Watershed).
- Joint Initiative on **Climate Variability education and animations** among CCCPIR BoM<sup>6</sup> Australia, CSIRO, Red Cross and Vanuatu Government
- Joint initiative with the Australian-funded Climate and Oceans Support Programme in the Pacific (**COSPPac**) to collect and analyse **traditional indicators of climate and climate variability**.
- Joint Initiative with James Cook University to undertake a comprehensive **Social Network Analysis of climate and disaster stakeholders**
- Joint initiative with the University of Queensland to study the factors that both strengthen and weaken community based adaptation activities
- Joint initiative between SPREP, CCCPIR and TAFEA province to undertake adaptation programmes in communities.
- Public Private Partnership with Kakula Private Island and Moso Turtle Island resorts to improve **environmental resilience to climate change through eco-tourism with local communities**
- Partnership with the **Fest Napuan committee** to share critical messages of climate adaptation through music and the arts to the wider public.

Example Media:

- Pele Island undertaking destocking program of pigs to recover from cyclone Pam
  - o [http://dailypost.vu/news/pele-island-undertaking-destocking-program-of-pigs-to-recover-from/article\\_ca20f6c9-6e70-5f3e-b01e-5ea338326bb7.html](http://dailypost.vu/news/pele-island-undertaking-destocking-program-of-pigs-to-recover-from/article_ca20f6c9-6e70-5f3e-b01e-5ea338326bb7.html)
- MALFFB Risk and Resilience Unit assisting farmers against impending El Nino ([http://www.dailypost.vu/news/article\\_a9b87045-1dd9-5a85-a14e-81a06850ad8e.html](http://www.dailypost.vu/news/article_a9b87045-1dd9-5a85-a14e-81a06850ad8e.html))
- Community-to-community resource management and climate change solution exchange underway at Nguna-Pele ([http://www.dailypost.vu/news/article\\_087364cd-18aa-5361-b6c8-6a659c1bad34.html](http://www.dailypost.vu/news/article_087364cd-18aa-5361-b6c8-6a659c1bad34.html))
- Article highlighting the post cyclone recovery and rehabilitation activities implemented by GIZ [http://www.lemonde.fr/paris-climat-2015/article/2015/07/20/le-vanuatu-face-au-defi-de-la-securite-alimentaire\\_4690881\\_4527432.html](http://www.lemonde.fr/paris-climat-2015/article/2015/07/20/le-vanuatu-face-au-defi-de-la-securite-alimentaire_4690881_4527432.html)
- Press focused on the progress towards recovery in Vanuatu after cyclone Pam <http://www.theguardian.com/world/2015/jul/28/vanuatu-cyclone-pam-el-nino-reconstruction>
- SPC web portal highlighting Cyclone Pam recovery support <http://www.spc.int/cyclone-pam-response/>

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<sup>6</sup> Bureau of Meteorology of Australia

<b>Activity</b>	<b>Date</b>	<b>Description</b>	<b>Beneficiaries</b>
Educating bee keepers on climate resilient husbandry	4-6 February	Pele bee keepers workshop with bee keeping expert Gilbert Gibson	3 females, 8 males
Liquid fertilizer training	04 March	The use of liquid fertiliser as an important organic fertiliser for local farmers to use to combat climate-influenced soil degradation	9 females, 23 males
Training on Climate Resilient Agriculture	6-7 March	Educational sessions and exchange with farmers from Nguna and Pele to NARI project site to learn about sustainable methods of livestock care and farming	6 females, 9 males
Cyclone Pam Emergency Awareness & Training	11 March	Visits to all 16 communities on Nguna & Pele 48 hours before the category 5 cyclone to give specific preparatory advice to communities	~1200 females, 1100 males
Cyclone Pam: National Emergency Food Aid Distribution Planning	23 March – 15 April	Collaborated with Area Councils, local chiefs, Vanuatu government and aid donors to create emergency distribution plans for food aid on 22 islands as part of the GIZ-led Food Security & Agriculture Cluster	Approximately 210,500 food aid recipients
Cyclone Pam: Food Monitor Training	3 – 10 April	Drafted standard guidelines for monitors overseeing the distribution process. Created infographics, a manual and reporting template for monitors. Held a one-day training for monitors before the second round of food aid.	22 females, 56 males
Cyclone Pam: Information Management	6 – 30 April	Created food ration infographics, reported 3W cluster activities in UN OCHA system to avoid overlap, produced maps of aid delivery	31 females, 38 males
Fish Aggregation Device Training	April 10	Youth of 3 villages on Pele learned about a fish aggregating device and its maintenance.	~20 males, 28 females

Community Cyclone Recovery Needs Consultations	3 – 6 June	Undertook community consultations in 18 villages on Nguna, Pele and Emao islands. Established Community Disaster Garden committees, negotiated contracts with communities and designed nurseries with key leaders. Additionally gave El Nino agricultural warnings at community meetings.	500 key stakeholders on Nguna, Pele and Emao islands
Establishment of Community gardens	15 – 19 June & 29 June – 3 <sup>rd</sup> July	Distribution of and training on community gardening materials including 28 water tanks, tools, equipment, etc to communities and schools on Nguna, Pele, Emao and North Efate	6 villages and 2 schools on Emao, 16 villages and 3 schools on Nguna and Pele, and two schools on Efate (Onesua College and Tanilou Primary School).  ~1200 females, and 1100 males
Malekula lessons learned exchange	Sep 21- 28	Train local community members in Dickson reef/Disvel in South-west Malekula and Araki island in South Santo under ADRA program with GIZ lessons learned	+ 100 people in 3 local communities
Training on drip irrigation in agriculture	April 14; August 17; October 20-23; December 7-9	Training in communities on 3 different islands including schools, on establishment of drip irrigation in community agricultural plots	16 community and 3 primary school on Nguna Pele island, 6 community and 2 primary schools on Emao Island. ~1800 females, 1600 males
Chicken husbandry training and chick distribution	22 –24 May; 10 - 11 June; 24 June	Vulnerable communities trained on chicken husbandry and how to care for chicks in a way that is climate resilience (including feeding etc). Every household in the 16 villages received 10 baby chickens.	~1300 females, 1100 males
Training on installation and	15 – 17 June	Introduced and educated representatives of each community	7 females, 9 males

use of solar cookers		on Nguna and Pele about solar cookers for fuel-wood savings	
Community to Community exchange on CC adaptation approaches	30 June – 3 July	Experts from Nguna-Pele visited communities in Santo through the Wan Smolbag organization to train and educate them on successful adaptation approaches	18 female, 27 male
Handicraft from non-cyclone affected resources training	August	Nguna women learned how to make decorations from resources not affected by cyclone pam for a wedding party on Kakula Island.	43 females
Nguna Pele Marine and Land Protected Area Management Committee Meetings	Monthly January to December	Climate & conservation programming and community awareness	~200 females, 190 males
Training on Land and Marine Conservation Areas for Climate Change Adaptation	23-29 August	Representatives from across Vanuatu were trained in ecosystem based adaptation based on lessons learned from CCCPIR Pele pilot site; including coral mariculture, Solar food dryer, Fish aggregating Devices, composting toilets, turtle tagging, environmental surveys, establishing conservation areas and coastal revegetation etc.	42 female, 68 male
El Nino Community Awareness	August 4-5; September 10 -11	Community awareness on preparation for El Nino, in addition to irrigation awareness to protect food security.	In depth training for Disaster committee for Nguna Pele Islands consisting of 3 women and 4 men.  Committee presented awareness at all 16 communities; ~1000 females, 1000 males
Pele-APTC Climate Change and Livelihoods Survey	11-13 October	Conducted a survey of 60 households on Pele island with the students of the Australian-Pacific Technical College. The survey	25 APTC students (13 females, 12 males), 60 households surveyed on Pele Island

		collected data in six categories: general climate change knowledge, household information, income and livelihoods, Cyclone Pam Impacts,	
Water Security Training	26 October	Training for all people and communities on water security in the context of El Nino drought. Distributed 16x 6000 liter water tanks to assist with drought response.	16 villages across Nguna Pele Islands ~2300 females, 2100 males

## Tourism

CCCPIR launched its sustainable community tourism and climate change adaptation activities in 2013, with the technical support of an external consultancy firm (Pacific Asia Tourism PTY LTD) and on-ground experts in the SHEFA tourism office and the National Tourism Development Office. The Vanuatu Tourism Board selected two CCCPIR adaptation pilot sites: Nguna-Pele area and the Havannah Harbour area, both on North Efate, due to their proximate location and existence of current tourism activities. Both communities and the provincial area councils have endorsed the project objectives and been fully involved in programme implementation.

**In Havannah Harbour**, the local area council implemented a programme to cope with the growing problem of waste, and to identify both the consequences on tourism and the additional exacerbation climate change brings to the issue. The campaign focused on realistic and locally appropriate solutions, which are now being implemented. Working alongside the Vanuatu Meteorology and Geohazards Department, the Vanuatu Environment Department, the Tourism Department, SHEFA Province and the Department of Finance, a DVD was produced showcasing **the local Waste Climate & Tourism case study** in a “peer-to-peer” Bislama-language format. The film and educational campaign was launched by the Area Secretary of the North West Efate Area Council and shared with all communities and schools.

At Nguna and Pele, the focus has been on tourism activities that enable adaptation. On **Pele Island**, the community of Worasifui has trailed and perfected a **coral mariculture technique for tourists**. Planting varieties of corals that are resilient to increased sea temperature and other climate changes enables reefs to regrow. At the same time, tourists can participate in the planting activity and generate income for other community adaptation programmes. Over 200 coral fragments have been planted on a variety of bed designs that proved robust and resilient to severe tropical Cyclone Pam. On **Nguna Island**, the abundance of small operator bungalows has put excess pressure on already climate vulnerable coral reef fish. In response, the community of Taloa with support from the Vanuatu Fisheries Department and CCCPIR has established a **freshwater Tilapia aquaculture demonstration**. The extremely resilient fish grown in the tanks are supplied to local bungalow operators. Novel water flow techniques have been trialed on Nguna, including utilizing ground water wells for fish water that are now too salty for human consumption. New trials linking poultry and tilapia are currently underway.

The National Tourism Development Office reached out to CCCPIR for support in 2015 to revise the current **Tourism Accreditation Standards**. CCCPIR provided technical support to develop a special **“Eco Label”** for all types of tourism operators that would require basic levels of climate change adaptation and mitigation standards to be met. In addition, CCCPIR supported Vanuatu to push for a novel community-ecotourism programme, including climate change adaptation, which will be launched at the regional level in 2016.

Lessons learned from the CCCPIR tourism interventions were presented at the **SPREP Blue Days Ecotourism conference**<sup>7</sup> in Tahiti alongside representatives of the Vanuatu National Tourism Development Office.

Activity	Date	Description	Beneficiaries
Kakula Island Public Private Partnership	18 January; 24 Feb; 10 March	Worked to establish a mutually beneficial relationship between indigenous landowners and Kakula resort. Produced tourism IM products, mapped conservation areas and indigenous species on Kakula island.	63 females, 90 males
Handicraft from non-cyclone affected resources training	20-23 August	Nguna women learned how to make decorations from resources not affected by cyclone pam for a wedding party on Kakula Island.	43 females
Climate Tourism Accreditation Standards	22 June	Work with National Tourism Development Office to mainstream climate considerations into the new Tourism Accreditation Standards	8 males

## Energy

CCCPIR engaged in a short period of energy-related activities from 2011-2013, in cooperation with the Department of Energy, Department of Mines and Mineral Resources and Vanuatu Meteorology and Geohazards Department.

Major results for this component included:

- A **household energy survey** was completed in Port Vila and Luganville covering around 1200 households in total.
- The Government of Vanuatu (GoV), the Asian Development Bank (ADB) PEEP2 and CCCPIR have collaborated to produce several **energy audit reports** in Vanuatu which has led to a major funding proposal being developed by PEEP2 and approved by ADB to reduce energy consumption.

<sup>7</sup> <https://www.sprep.org/biodiversity-ecosystems-management/blue-days-opens-in-papeete>

- The Government of Vanuatu (GoV), the Asian Development Bank (ADB) PEEP2 and CCCPIR are collaborating to measure energy consumption before and after **energy efficiency installations at a number of Government buildings** to enable accurate impact assessment in terms of electricity savings and CO2 emissions reductions.
  - Metering of all lighting circuits to determine baseline lighting energy use at the Meteo building in collaboration with the ADB Promoting Energy Efficiency in the Pacific, phase 2 (PEEP2) project
- The Government of Vanuatu and CCCPIR completed a preliminary survey of potential solar PV installation sites at various public buildings around Port Vila.
- The Government of Vanuatu and CCCPIR completed a **solar energy feasibility study for the Meteo Building** including development of technical specifications for a solar PV project.
- The Government of Vanuatu, with assistance from CCCPIR developed, submitted and successfully acquired **funding for a major renewable energy project** from the UAE Pacific Partnership Fund.
- The Government of Vanuatu has with the assistance of CCCPIR signed an MoU with GIZ on the implementation of an energy project.
- Renewable energy forms a major focus of the 2015 Fest Napuan music festival, including CCCPIR support for energy awareness and fora.

## Education

CCCPIR has focused heavily on supporting the Government, including the Department of Education and the Curriculum Development Unit, to **mainstream of climate change elements into the K-13 new Vanuatu Curriculum**. Now fully complete, CCCPIR is engaged in a suit of activities including the development of materials and teaching resources to appropriately impart this knowledge to students. Specifically, the CCCPIR programme is working alongside the Vanuatu Rural Training Development Centers Association (VRDTCA), SPC's Center for Education, Training and Communication, the University of the South Pacific, Red Cross and the EU PacTVET programme, to develop, with local sectoral experts, a set of **modules on Climate Change & Disaster Risk Reduction** to be rolled out as a mandatory course among all Rural Training Centers on all islands. The Vanuatu Qualifications Authority is now accrediting this training course, with train-the-trainers events having been held in Port Vila and Luganville.

Similarly, the CCCPIR programme is working with the Vanuatu Institute of Teacher Education to identify how climate themes and topics in the new curriculum can best be taught to new and existing teachers. A major workshop for teacher trainers was held in August 2015, with plans for climate change teacher trainings across the country in partnership with multiple stakeholders.

Alongside the Government of Vanuatu and the PACSAP Australian Programme, CCCPIR developed and launched a visual, **picture-based outreach tool kit on climate change for education** that is based on nationally prioritized key messages and learning outcomes on climate change. The toolkit has been shared with all schools and helps teachers to translate existing key messages and learning outcomes on climate change into personalized and culturally relevant visualizations like pictures, illustrations and cartoons that are often more approachable than scientific texts and graphs.

For three years the CCCPIR programme alongside the Ministry of Education and over 30 partners have organized and facilitated the annual **Climate Zone Quiz Competition** designed to test the climate

change knowledge and skills of Vanuatu’s secondary schools. Schools from all 6 provinces participated, with over 400 students. Due to impacts of Cyclone Pam on schools across the country, in 2015 Climate Zone continued in the form of a one-day **Youth Climate Summit** in which high school students took the roles of Parties to the United Nations climate change treaty and negotiated for a climate friendly binding agreement. This was the first ever youth climate negotiation held in the Pacific and was acknowledged by the US Government’s Whitehouse administration.

Building on these school-focused activities, CCCPIR is working in the long term with several local schools, including Malapoa College where students are linked with climate experts to design and implement their own adaptation activities. The students of Malapoa are currently implementing a major **Coastal rehabilitation programme** which has included stakeholder analyses and communications, revegetation, sand mining management, coral mariculture and controls over unsustainable coastal uses. The students will prepare a guidebook and DVD to aid other communities affected by climate-related coastal erosion.

The CCCPIR programme, jointly with the Government of Vanuatu, Digicel Pacific and UNDP, spearheaded an innovative public private partnership in which **sms text climate questions** were sent to all mobile users with behavior-based questions related to climate change adaptation. In just 5 days of the SMS programme, over 38,000 users from around the country had participated in this innovative and dynamic programme.

A major educational program was organized as part of the annual Fest Napuan Music Festival in which climate adaptation themes were tied into Government’s preparation for COP21 under the UNFCCC. It was estimated that in the five days of the festival over 100,000 people attended the climate change educational activities.

Relevant Media:

- Fest’Napuan marks 20<sup>th</sup> anniversary of festival
  - o [http://dailypost.vu/news/fest-napuan-marks-th-anniversary-of-festival/article\\_e3dcc24e-d257-568c-bf44-22103678ce57.html](http://dailypost.vu/news/fest-napuan-marks-th-anniversary-of-festival/article_e3dcc24e-d257-568c-bf44-22103678ce57.html)
- Fest’Nalenga and Fest’Napuan musicians to sing about climate change
  - o <https://vanuatuinfoonline.wordpress.com/2015/09/28/vanuatus-festnalenga-festnapuan-musicians-will-be-singing-about-climate-change/>
  - o [http://dailypost.vu/news/fest-nalenga-and-fest-napuan-musicians-to-sing-about-climate/article\\_ae3b652d-8ddc-5dee-be8d-ef83e936483e.html](http://dailypost.vu/news/fest-nalenga-and-fest-napuan-musicians-to-sing-about-climate/article_ae3b652d-8ddc-5dee-be8d-ef83e936483e.html)

Activity	Date	Description	Beneficiaries
Climate Change & Disaster Risk Reduction Modules	14 January; 27 May; 25-26 June; 24-28 August	Work towards development of Climate Change & Disaster Risk Reduction modules accredited by the Vanuatu Qualifications Authority	23 females, 38 males



Global Day of Divestment	13 Feb	Panel Discussion with USP Students and government officials to discuss the importance of divestment from fossil fuels to renewable energy	Over 30 USP students and staff from the ministry of Climate change / Youth & sport
Climate Change Education with the Public	21 February	Climate Awareness campaign at the Efate Football League opening celebrations	550 females, 800 males
Climate science and Climate Activist training	20-23 July	Free training provided for 350 Vanuatu members and other USP students on specific climate science and climate activist.	9 males and 6 females
Greenpeace Onboard workshop on climate change	20 April	Workshop on climate justice after cyclone Pam and signing of people's declaration	50 females, 40 males
Climate change youth summit	13 August	Youth from around Efate and offshore islands undertook a mock UNFCCC climate negotiation to reach a less than 2C goal.	67 female, 65 males
Malapoa Collage and Reef Check Vanuatu Coastal Rehabilitation Programming	23 February, 28 Feb, 4 March; 15 May; 19 June; 3 July; 4 August, 11 August,	Coastal rehabilitation at school site <ul style="list-style-type: none"> <li>- Planting of endemic coastal species</li> <li>- Planting of erosion control grass along the beach</li> <li>- Sustainable recreational area set-up (i.e. Barbecue pits)</li> <li>- Recycling mechanisms implemented at the college.</li> <li>- Nursery house set-up</li> </ul>	20 females, 10 males from Malapoa College. 200 females, 240 males in Malapoa beach area.
Rallying Schools for Climate Action	14 August, 18 Aug 2015	Public rally with Kumi Naidoo, Director of Greenpeace, to call for moratoriums on all new global coalmines. It occurred at the Municipal Market in town. School students were invited to come and join the rally and to ask questions.	~200 females, 100 males
Climate Change workshop for Fest'Napuan 2015 musicians	17 July, 23 Sept 2015	Technical training workshop for the musicians performing at Fest'Napuan and Fest'Nalenga 2015. Selected Non Governmental	~25 males, 10 females

		Organizations and Government Departments facilitated different important sessions (Food Security & Water Security, Energy Security, Disaster Risk and Reduction, Traditional Knowledge, Our Environment: Land and Marine Resources).	
Fest Napuan – Climate Change mainstreaming into the festival Component 6 28 Oct – 31 Oct 2015	28 Oct – 31 Oct 2015	GIZ joined the Fest’Napuan committee and organized several different climate change educational activities into the 2015 music festival. Emphasis was placed on the following themes: Resilience, Food Security & Water Security, Energy Security, Disaster Risk and Reduction, Traditional Knowledge, Our Environment: Land and Marine Resources. Each of these themes was tailored to support the Vanuatu delegation attending COP21 of the UNFCCC	~40,000 females, 40,000 males
Radio Talkback Shows	02 February, 12 February, 20 March, 7 April, 9 May 27 July; 3 August, 5 September, 10 October, 24 November	Public engagement with listeners of FM107 and Radio Vanuatu on various climate change adaptation topics.	Hundreds of thousands of listeners.

## V. Monitoring and Evaluation

From 2011-2015, the CCCPIR expanded geographically (from initially 3 to 12 PICs), received additional co-financings from EU (EU-GIZ ACSE) and USAID (for activities undertaken in Choiseul, Solomon Islands), and furthermore took over the EU-GCCA activities in Timor-Leste. In 2012 – GIZ Head Office introduced the result matrix to all programmes, which allows a more simplified monitoring and is recommended to apply instead of less results oriented logical frameworks. Results-based monitoring at GIZ is a management instrument for steering and accounting for complex projects and forms the basis for objectives-oriented project management and efficient use

of resources. Results matrices examine the processes and intermediate steps and monitors the project throughout its entire duration.

Thus, CCCPIR's monitoring & evaluation processes consist of ongoing technical staff contribution to excel-based spreadsheets (staff update forms) detailing activities completed as well as planned that align with each component and its objectives. Current CCCPIR M&E processes include Results-based management programme framework matrix (including results matrix), Plans of Operation, & Team and steering committee meetings. Reporting is done annually national governments and steering structures as well as ongoing communications to SPC and divisional annual reports, Progress reports to BMZ, GOM, EU, USAID, etc. and Staff update forms. Lessons and updates are available regularly through, press releases and articles, specific communication products (e.g. briefs, documentation of best practices), updating programme information on various websites (national websites, SPC, Pacific Climate Change Portal), and documents produced (e.g. policies, plans, legislation, workshop reports)

## VI. Lessons Learnt

Many of the Lessons Learned by the CCCPIR program have been up-taken by other partners in the non-government sector and rolled out throughout the islands of Vanuatu. The CCCPIR program is well known as an innovator of adaptation technologies, sitting at the cutting edge of new approaches and techniques which become common practice once trialed and tested with the support of GIZ.

Below is a summary of some of the key CCCPIR-generated lessons learned, in addition to those contained within the dozens of manuals, guidebooks and DVDs already highlighted in this report

- Climate change extreme events, like Cyclone Pam in 2015, have the capacity to completely overwhelm an entire nation, and reveal its limited capacity to respond and recover. CCCPIR's quick mobilization, integration with the Ministry of Climate Change and Ministry of Agricultural programming and focus on sectorial institutional strengthening and capacity has ensured that project outputs were tailored to community-needs, engendered a sense of national ownership and effective response.
- Community gardening has become acknowledged as a critical component of disaster recovery and should be promoted in "peace time", as no single individual will be able to produce the quantity of food required for all those in need (including the elderly and disabled). The move away from communal gardening and towards privatization in most villages has undermined food security in times of disaster. Agricultural programming during peace time should have a strong element of community activities.
- Cyclone recovery for food security must be considered in the context of other climatic events, including the current El Niño severe droughts. The flexible design of the CCCPIR program allowed for drought considerations to be built into the planned cyclone-focused activities. In the context of climatic changes facing small island developing states like Vanuatu, there is an increasing need to consider resilience holistically as projections indicate multiple hazards will continue to simultaneously create negative impacts.
- The technical input of sectoral agencies into CCCPIR actions, for example the varieties of vegetables to be planted, the size of the community gardens and the technical specifications of the drip irrigation systems and nurseries have been indispensable, linking community

traditional agricultural knowledge with science-based agronomy. In times of disaster, communities and rural stakeholders invariably look to Government for immediate support. The CCCPIR program has supported the Government of Vanuatu to compile and make readily available the advice required by vulnerable communities. Ensuring that this information is compiled and contextualized well in advance of a disaster is essential. Utilizing all avenues for dissemination has also been of great benefit, including Bislama language leaflets, sms text messages, and radio,

- Sharing lessons learned is a critical element of the CCCPIR Program. A major training event for the trainer's event in late August at the CCCPIR adaptation sites on Nguna, has ensured that the climate change adaptation innovations will be up-taken and expanded to other non-CCCPIR sites in affected areas of the country. This training workshop covered several replicable approaches, including composting for moisture retention in community gardens, efficient seed sowing techniques and resilient vegetable varieties, drip irrigation techniques, and community organization during disaster response and recovery.
- The CCCPIR Program, as Secretariat to the Food Security & Agriculture cluster, was the first to organize a self-reflection lessons learned workshop several weeks after the cyclone to ensure that learning was captured for future improvement. The capture of lessons learned through the CCCPIR program directly contributed to the national Cyclone Pam lesson learned workshop organized by the Prime Minister's Office.

Not all lessons derived from successful outcomes. As expected there were a range of challenges faced during the implementation of CCCPIR Programs in 2015.

- The CCCPIR Program has strongly supported reforms of climate change governance in Vanuatu. Some of these reforms have met with resistance, particularly by units that did not benefit from more transparent and open systems of governance. Institutional change has been difficult to navigate, although the benefits to stakeholders, especially the non-government sector and civil society has been immense.
- While the primary focus of the CCCPIR interventions in the aftermath of Cyclone Pam was to ensure food security was quickly restored, the climate system did not remain stable. In July of 2015, predictions of a strong El Niño event were realized with most of the country plunged into what has become the nation's most severe drought in decades. This has occurred just at the time when cyclone recovery crops were near harvest, adding another layer of vulnerability and risk to a population already on the edge. El Niño season is currently threatening villages' ability to grow water-intensive vegetables. With the flexibility offered by CCCPIR, the program was able to quickly and efficiently reach out to all Government partners and expand interventions to cover both cyclone recovery and drought preparation.
- Convincing some individuals to participate in climate change adaptation in lieu of or in addition to work spent on individual farms and other livelihood activities has always been a challenge at the community level. Increasing integration into the market economy has long been eroding traditional practices around agriculture and food security. In the past, every community would always work together to develop a disaster garden which would provide the necessary social safety net to support those in need. The communal gardening practice has slowly been dying out as individuals focus more on their own plots and more on economically viable non-food crops like high-value spices. The traditional chiefs played an important role in reminding communities of past practices in which communal gardening was essential to the social fabric of village life and provided a traditional mechanism for disaster food security.
- While each community at the Pele pilot site received support during adaptation programming, there have been challenges to ensure that all members of the community have access and

share benefits. The CCCPIR program worked with the Pele Island Development Committee and Pele Island Council of Chiefs to resolve issues around equity, access and benefit sharing. Despite best attempts by the programme, some communities tried to dominate the use of high value items and project activities. The solution to this challenge was based in the cooperation with the island-wide provincial government, which has authority over all villages. The provincial government was able to set a schedule for equitable use of limited tools and equipment for clearing gardens.

- In the immediate aftermath of Cyclone Pam, normal CCCPIR operations were placed on hold, and full emphasis was placed on national food security issues. Unfortunately, most suppliers quickly sold out of their hardware and equipment for months as incoming ships prioritized food and shelter aid. Even simple items like hammers and watering cans took months to procure and import. Out-of-stock items from major suppliers (e.g. plastic tubing for drip irrigation) have continued to mean that not all communities have been able to implement all interventions.
- The approval of cyclone recovery project proposals by the Government of Vanuatu was slow in many instances, delaying the start of recovery projects coordinated by the Ministry of Agriculture that were supported by the CCCPIR program. While CCCPIR has supported the capacity of the Ministry of Agriculture to quickly design and engage with partners to implement programs, additional capacity support is urgently required for other government ministries and departments.
- Institutional challenges have been ongoing in regards to CC/DRR program development and implementation in Vanuatu. The CCCPIR program supported the Government of Vanuatu to establish a National Advisory Board on Climate Change & Disaster Risk Reduction. Unfortunately, many of the CC/DRR programs and projects operating in Vanuatu continue to bypass this system of coordination. For example, UNFCCC activities including attendance at international meetings are often delegated bilaterally by DGs and Directors without open and transparent communication with the members of the NAB. Results from the programs are not shared locally, and capacity is rarely transferred. As an agent of reform and transparency for the NAB, the CCCPIR program and its staff were often excluded from business-as-usual decision-making processes within some units.
- Monitoring & Evaluation of specific interventions has been ad hoc, while applying the high level results matrix framework to overall program goals and objectives. It is recommended to refine the CCCPIR M&E frameworks as the extended CCCPIR program is rolled out in 2016.

## VII. Budget spent (in Vatu)

Items	1 <sup>st</sup> Year 2009	2 <sup>nd</sup> Year 2010	3 <sup>rd</sup> Year 2011	4 <sup>th</sup> Year 2012	5 <sup>th</sup> Year 2013	6 <sup>th</sup> Year 2014	7 <sup>th</sup> Year 2015*	Total
<b>Equipment</b>		4.400,000	1.400,000	5.493,906	1.324,413	1.797,500	1.000,000	15.415,819
<b>Trainings/ Workshops</b>	1.400,000	2.750,000	4.290,000	9.496,739	8.304,410	3.587,000	1.000,000	30.828,149
<b>Technical Expertise</b>	3.900,000	31.000,000	28.900,000	29.988,500	37.748,000	16.266,500	14.700,000	162.503,000
<b>Pilot Site Activities</b>		2.850,000	4.500,000	7.213,119	9.287,874	1.499,000	1.000,000	26.349,993
<b>Total</b>	5.300,000	41.000,000	39.090,000	52.192,264	56.664,697	23.150,000	17.700,000	235.096,961

As outlined in the GIZ-Vanuatu MOU, the German Government through CCCPIR is providing Technical Assistance in different forms to the project (long term and short term expertise, equipment, training,

financial support for pilot projects, communication etc.). The equivalent amount to provide these services can be estimated at up to 235.096,961 Vatu.

Note\* The 2015 estimation does not include the over EUR 400,000 spent on Cyclone Pam related response and recovery (tools, materials, food aid, transportation) with funds from the German Embassy and the Swiss Government.

## VIII. Acknowledgement

CCCPIR Vanuatu would like to acknowledge the commitment of the Government of Vanuatu in enabling and raising the profile of climate change adaptation to become a leader in the Pacific and among developing countries. In addition, CCCPIR gratefully recognises the contributions of partners from government agencies, regional institutions, non-governmental organisations, civil society groups, and local communities for providing their invaluable expertise, time, and agency resources. Special recognition is due to the climate change champions from within Government, in non-government organizations and at the community level, who have truly made adaptation the most important development issue in Vanuatu today. CCCPIR thanks the nation of Vanuatu, the Pacific Community and their wonderful people for their hospitality and genuine partnership with the German Government.

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<sup>i</sup> *The World Risk Report 2012* was published by Alliance Development Works (Bündnis Entwicklung Hilft) in collaboration with the UN University Institute for Environment and Human Security (UNU-EHS) and The Nature Conservancy (2012).

<sup>ii</sup> Mainstreaming climate change and disaster risk reduction into sector policies, plans and strategies has been supported by the SPC/GIZ Coping with Climate Change in the Pacific Islands programme.

<sup>iii</sup> The Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity (MALFFB), established the Risk and Resilience Unit under its corporate structure with 6 full time officers supported by SPC/GIZ and UNDP. The role of this unit is to liaise with the NAB and further strengthen climate change adaptation and risk reduction among its line departments through to the grass roots level, including coordinating the food security cluster's responsibilities in response to disasters.