# Vanuatu Community-based Climate Resilience Project (VCCRP)

## Annex 2: Project Feasibility Study

Accredited Entity: Save the Children Australia
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## LIST OF ACRONYMS

| | |
|---|---|
| AE | Accredited Entity |
| CBO | Community-based Organization |
| CCA | Climate change adaptation |
| CDCCC | Community Disaster and Climate Change Committee |
| CLO | Community Liaison Officer |
| CSO | Civil Society Organization |
| DARD | Department of Agriculture & Rural Development (Vanuatu) |
| DoCC | Department of Climate Change (Vanuatu) |
| DFAT | Department of Foreign Affairs and Trade (Australia) |
| DoF | Department of Forestry (Vanuatu) |
| DoL | Department of Livestock (Vanuatu) |
| DLA | Department of Local Authorities (Vanuatu) |
| DoWR | Department of Water Resources (Vanuatu) |
| DRM | Disaster Risk Management |
| DRR | Disaster risk reduction |
| DSPPAC | Department of Strategic Planning, Policy and Aid Coordination (Vanuatu) |
| DWA | Department of Women's Affairs (Vanuatu) |
| ENSO | El Niño Southern Oscillation |
| EWS | Early warning system |
| FBO | Faith-based Organization |
| GCF | Green Climate Fund |
| GESI | Gender equity and social inclusion |
| GoV | Government of Vanuatu |
| ICM | Integrated catchment management |
| IUCN | International Union for Conservation of Nature |
| MALFFB | Ministry of Agriculture, Livestock, Fisheries, Forestry and Bio-Security (Vanuatu) |
| M&E | Monitoring and Evaluation |
| MEAL | Monitoring, evaluation, accountability and learning |
| MoCC | Ministry of Climate Change (Vanuatu) |
| MoIA | Ministry of Internal Affairs (Vanuatu) |
| NAB | National Advisory Board on Climate Change and Disaster Risk Reduction (Vanuatu) |
| NDMO | National Disaster Management Office (Vanuatu) |
| NGO | Non-government Organisation |
| NSDP | National Sustainable Development Plan |
| NTWG | National Technical Working Group |
| PDC | Provincial Disaster Committee |
| PMU | Project Management Unit |
| PSC | Project Steering Committee |
| PTWG | Provincial Technical Working Groups |
| RCU | Regional Coordination Unit |
| SCA | Save the Children Australia |
| SCV | Save the Children Vanuatu |
| SPC | Pacific Community (formerly Secretariat of the Pacific Community) |
| SPREP | Secretariat of the Pacific Regional Environment Programme |
| TAC | Technical Advisory Committee |
| TC | Tropical cyclone |
| TWG | Technical Working Group |
| USAID | United States Agency for International Development |
| VCAN | Vanuatu Climate Action Network |
| VCCRP | Vanuatu Community-based Climate Resilience Project |
| VFD | Vanuatu Fisheries Department |
| VMGD | Vanuatu Meteorology & Geo-Hazards Department |
| VNSO | Vanuatu National Statistics Office |

# 1. Introduction

### Purpose

This feasibility study provides background information to the Green Climate Fund (GCF) funding proposal for the Vanuatu Community-based Climate Resilience Project (VCCRP), prepared by Save the Children Australia (SCA) in partnership with the Government of Vanuatu.

The purpose of this report is to provide the justification and further detail of the project design process and supporting information used to prepare the funding proposal. It also includes an assessment of the project design.

### Problem statement

Vanuatu leads the world disaster risk index as the country with the highest disaster risk score of 49.74, indicating it is the most highly exposed to natural hazards (WEF 2020). A global analysis of the extent that countries have been affected by the impacts of climate-related loss events (e.g. cyclones, floods, heat waves) ranked Vanuatu 8$^{th}$ globally in the Climate Risk Index for the 1999-2018 period based on percent-wise GDP losses between 1999 and 2018 (Eckstein et al. 2020). This vulnerability is driven by the country's geography, exposure to hazards and the heavy dependence on natural resources for subsistence and income. Other factors that contribute to the country's vulnerability are a narrow economic base, a weak developing economy, poor inter- and intra-island communication and transport networks, and a decentralised and dispersed population often isolated following disaster events.

Sixty-five of the 83 islands that make up the Vanuatu archipelago have been inhabited for thousands of years. This has enabled the country's people to acquire a profound understanding of their land, sea and climate. Generational knowledge, combined with the expertise that results from being primary managers and beneficiaries of natural resources, is a keystone to local livelihoods, cultural identity, and the ability of dispersed rural populations to cope with natural hazards (Johnson et al. 2020). However, an increasingly unpredictable climate is challenging the limits of local and traditional experience, while threatening significant national and community level impacts into the future.

### The proposed project

The VCCRP project will address the most prominent risks arising from climate change in remote communities in Vanuatu, which currently lead to significant impacts on assets, people, ecosystems, and culture. The project will implement adaptation measures targeted at decreasing the exposure and vulnerability to climate hazards in the most cost-effective and sustainable manner to reduce the risk for the greatest number of beneficiaries in the project area.

The VCCRP project supports increased resilience of rural communities to climate change risks by:

- Working with communities to identify locally-specific climate change vulnerabilities (building on the national vulnerability assessment);
- Identifying adaptation actions to address pressing current and projected impacts to food security and livelihoods (from the adaptation package);
- Supporting implementation of targeted adaptation actions;

- Facilitating adaptive governance structures at the local level to help ensure sustainability and support future scale up of climate finance.

The project will also reinforce traditional knowledge-based systems with current climate change science to enhance resource management and disaster risk reduction decision-making.

The project will work with vulnerable rural communities to ensure ownership of the solutions that minimise vulnerability and build on local knowledge, skills and innovation. The project has a particular focus on the key sectors of fisheries and agriculture as fundamental to supporting long-term food and livelihood security. Underpinning the project is the theory that communities will be more resilient to the impacts of climate change if science-based information can be coupled with traditional knowledge and relationships. Building on the existing capacity in Vanuatu, rural communities will be supported to deliver long-term sustainability of adaptations to minimise risks to terrestrial, marine and agricultural systems, thereby ensuring that they continue to provide essential ecosystem goods and services, can diversify livelihood options and increase gender equality, disability and social inclusion. This project ensures that this approach is sustainable by strengthening government service deliver mechanisms in line with its decentralisation policy.

# 2. Design approach

The approach to designing the project has a number of foundational principles:

- Stakeholder engagement to ensure accuracy and ownership
- All activities in the project to be driven by a clear climate change risk linkage
- Target the most vulnerable first and ensure rapid and widespread scaling up to achieve a paradigm shift towards a sustainable and climate-resilient economic model at local level.

In this report, the first sections are dedicated to setting the context (**Section 3**) and presenting an overview of the current climate and its recent trends in Vanuatu followed by projections of climate change downscaled to the country (**Section 4 and 5**). A summary of the process and chain of evidence for designing the project is in **Figure 1**. This clearly shows how the report elements are connected to climate drivers and associated hazards.

This comes together to inform a national vulnerability assessment (**Section 5.4**) which ranks the Area Councils of Vanuatu according to their exposure to climate risk. This Vulnerability Assessment is a key output in that it:

- prioritises the beneficiaries most in need (**Section 7.3**); and
- identifies the key climate drivers of vulnerabilities in communities so that these gaps can be targeted when developing the activities under this project (**Section 5.4**).

For the design process, especially the validation of the beneficiary selection and the activity selection, engagement with stakeholders was a priority. All relevant stakeholders were identified through a mapping output provided in **Appendix A of Annex 7b**. Consultation was open and extensive, with consultations participatory and voluntary and many primary stakeholders will have an executing role for implementation. In identifying stakeholders, particular attention has been given to ensuring vulnerable and marginalised groups within civil

society, including women, children and people with disabilities, are included in the engagement plan to ensure effective engagement that is socially inclusive has taken place.

This project proposal is built on many years of stakeholder engagement with key partners, government and communities to help develop the concept note. The earliest consultation undertaken with government stakeholders to develop the project concept commenced in 2016, with a number of concept development workshops held over 2016-2019, including with key government staff.

Continued consultation during the design phase with government and other relevant stakeholders further progressed the project intent and development (consultations are detailed in **Table 1 of Annex 7b**) and included:

- Initial information correspondence about the project concept and details of design process and timelines (November – December 2020);
- Bilateral meetings with relevant personnel to discuss the project concept and details of design process and timelines (November – December 2020);
- Establishment and representation of the project Reference Group during design;
- Participation in a validation workshop to validate the project design before submission to GCF (10 March 2021) (Attendees and outcomes are listed in **Appendix C of Annex 7b**);
- NAB Approval Meeting to approve the project design before submission to the GCF (7 April 2021); and
- Reference group (a subset of which will become the Implementation Steering Committee for the project) has been established during the design phase with representatives invited from primary stakeholders who will be involved in implementation, including government agencies, NGOs, CSOs and the private sector.

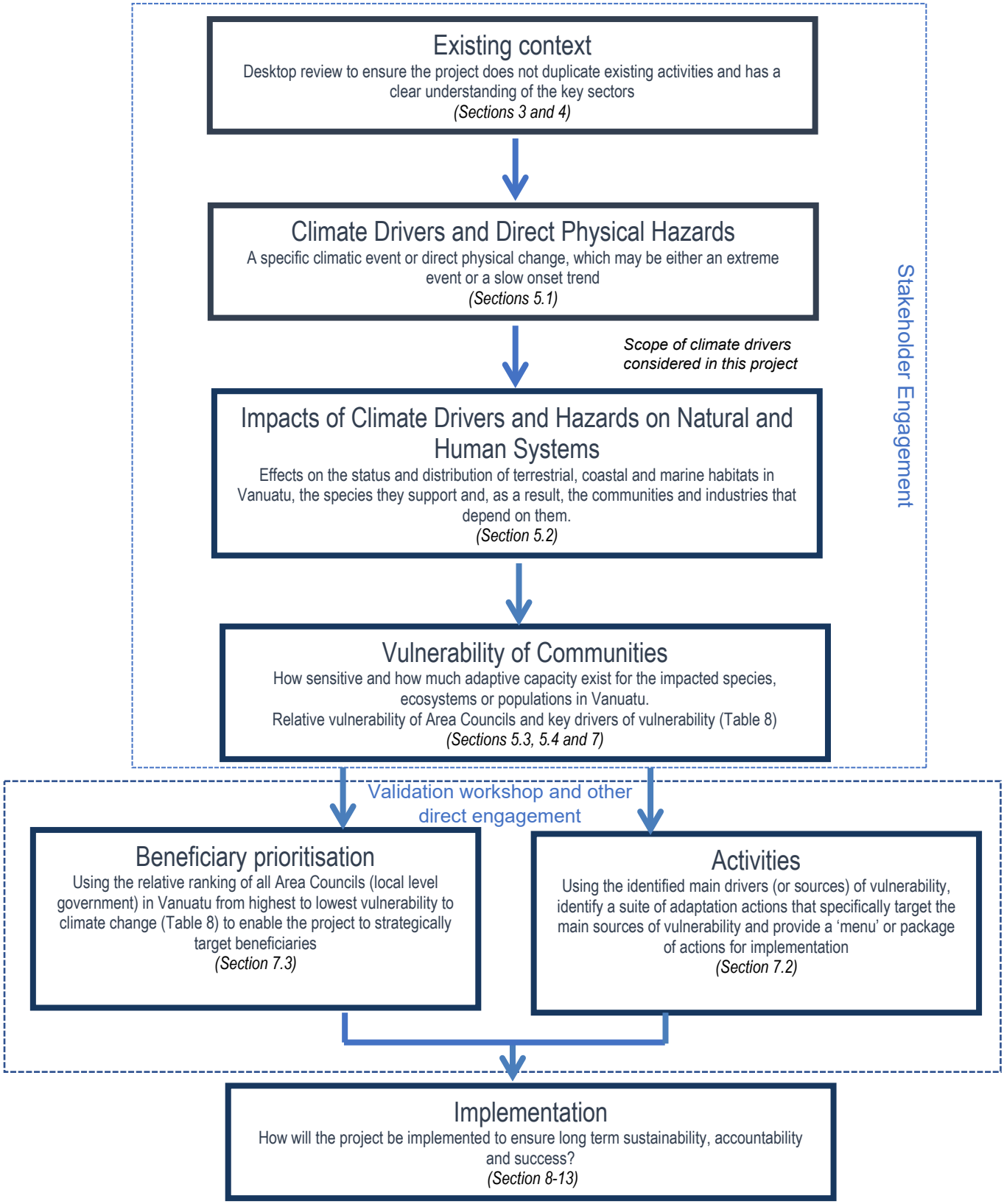



***Figure 1**. Report structure and chain of evidence from climate drivers and hazards to impacts on communities, targeting beneficiaries, adaptation package and implementation, with sections of the report that relate to each element identified*

# 3. Vanuatu context

This section provides an overview of the current socio-political and legal environment in Vanuatu to provide an understanding of the context in which the project will operate.

The legislative and policy section (**3.2**) is particularly important as it provides the framework for how activities will need to be implemented and managed on the ground given the current government frameworks. The project will ensure long term sustainability and scalability through informing the process of updating of key legislation and policies to embed adaptation activities (**Section 12.5**).

Complementary projects are listed to provide an understanding of what adaptation activities are already being undertaken or planned in Vanuatu. Strong linkages with these projects were key in the design phase to ensure there was no duplication of effort and during implementation to ensure synergies can be recognised.

## 3.1. Brief country overview

The Republic of Vanuatu comprises 83 islands extending 1,300 km from north to south between islands. The country lies between latitudes 13° and 21°S and longitudes 166° and 171°E (**Figure 2**). It has a combined land area of 12,336 km$^2$ and a maritime exclusive economic zone of 680,000 km$^2$. The eight largest islands contribute 87% of the total land area and with only 1.7% land, Vanuatu is sometimes referred to as a 'large ocean state'. Vanuatu has a population of approximately 272,000 (2016 national mini census) on 68 islands with 94% of the population living within 5 km of the coast and 60% living within 1 km of the coast (Andrew et al. 2019). Therefore, coastal environments play a vital role in the subsistence and commercial life of ni-Vanuatu.

The country is divided into 6 provinces (see **Figure 3**), with most islands of mountainous volcanic origin with steep catchments leading to narrow coastal plains. It has a tropical climate, moderated by southeast trade winds from May to October, and moderate rainfall from November to April, often affected by cyclones from December to April. Ongoing geophysical activity causes regular earthquakes and landslides in the Vanuatu archipelago.

Vanuatu was previously known as New Hebrides when the French and British jointly facilitated a condominium government until independence in 1980. It is a parliamentary democracy seated in the capital of Port Vila on Efate Island. Vanua'aku Pati, was the primary political party that led the country in its fight for independence and led the government throughout its infancy. In 1991, a split within the Vanua'aku Pati led to a fragmentation of the previous two-party system. Since then, the young state has experienced a series of coalition governments. Political divisions have led to instability resulting in cabinet reshuffles, and changes / dissolution of government.[1] In recent years there has been more stability in the national government with the former Prime Minister, Charlot Salwai maintaining his position with occasional shifts in coalition partners from 2016 to 2020. At the time of writing, the current Prime Minister is Bob Loughman, and he has maintained his position of leadership since his recent re-election in 2020.

[1] USP / Institute of Pacific Studies. "*Governance in Vanuatu*." 1999.

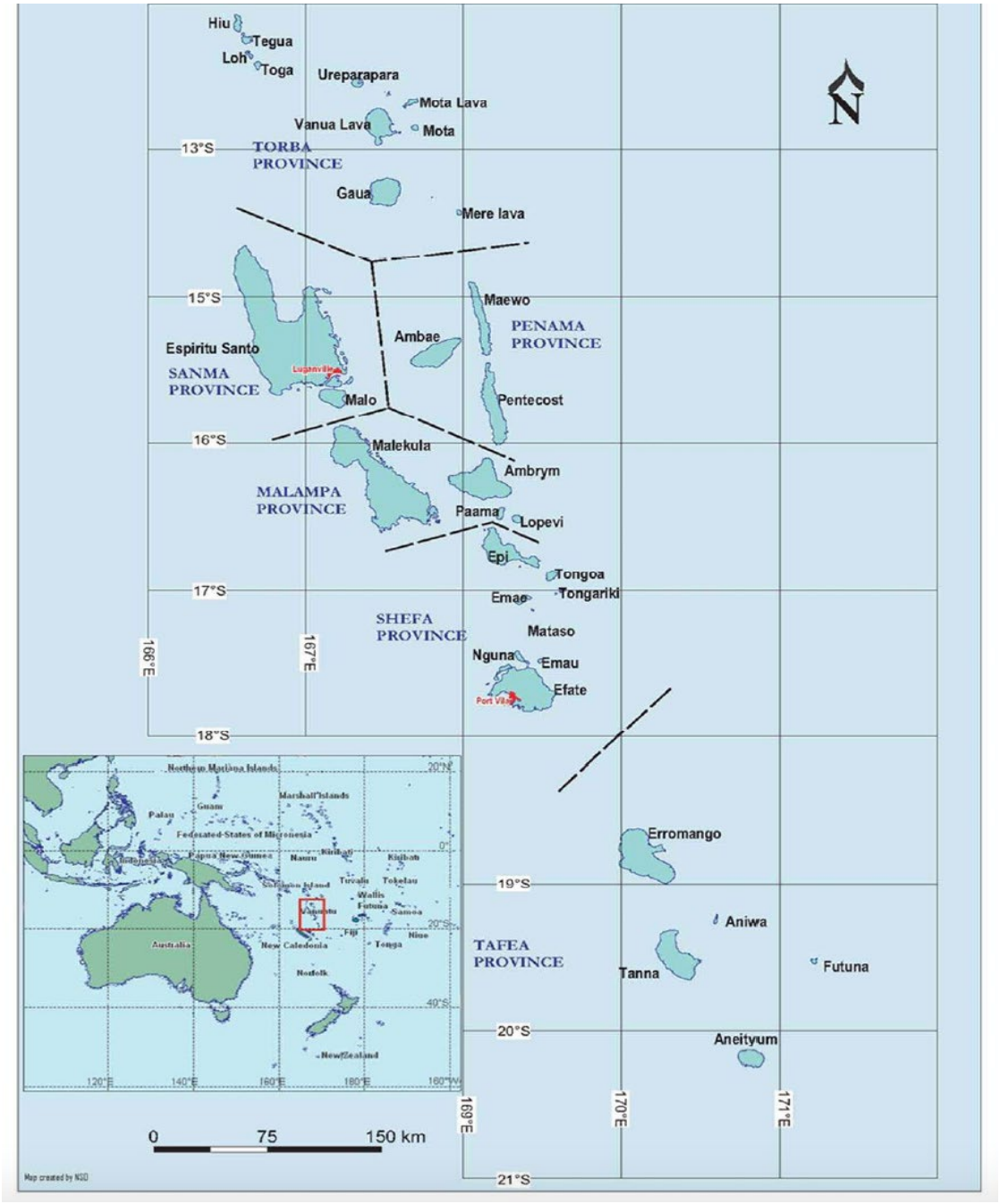


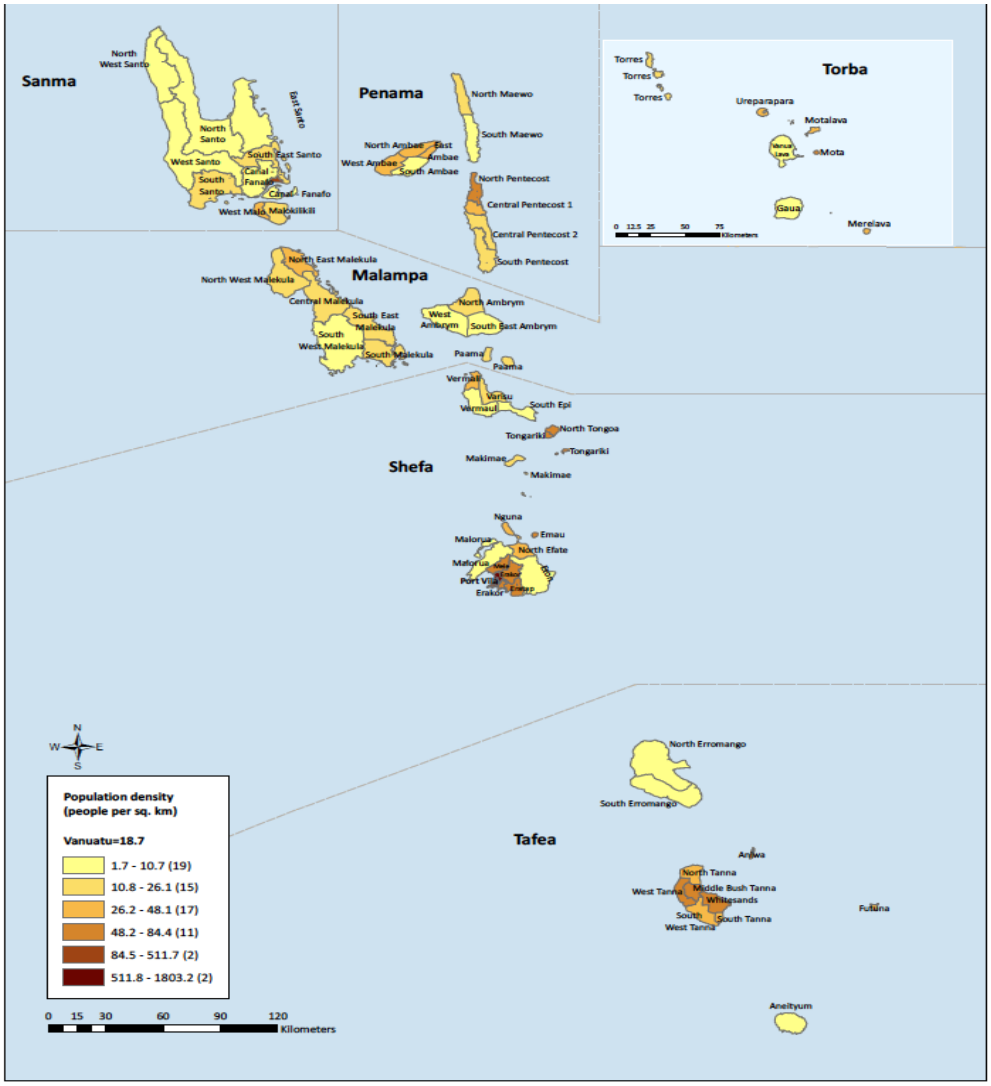

***Figure 2.*** *Map of Vanuatu showing the archipelago island chain and division of islands in Vanuatu into the six Provinces.* ***Insert****: Location of Vanuatu in the Pacific*

Sub-national governance in Vanuatu consists of 6 Provincial Government Councils: Shefa Province, Tafea Province, Malampa Province, Penama Province, Sanma Province and Torba Province. These provincial governments were established in 1994 as part of the *Decentralization and Local Government Regions Act No. 1 of 1994*. Previously, alternative Local Government Councils and Districts were established, but the *Decentralization and Local Government Regions Act No. 1 of 1994* called for the dissolution of these previous island groupings.

There are 3 municipalities (Port Vila in Shefa Province, Luganville in Sanma Province and Lenakel in Tafea Province). Laws supporting the establishment of municipal governments were provided for in the *Municipalities Act* of 1980, which has been amended various times.

Women are under-represented at all levels of leadership and decision-making in Vanuatu. Since independence in 1980, Vanuatu has only had five female members of parliament *(two elected in 1987, two elected in 2004 and one elected in 2008)*. There are currently no women in parliament. In the national elections in 2020, seventeen women contested; in the national election of 2016, eight women took part as candidates. Women's representation at the municipal council level has improved, due to an amendment to the Municipalities Act in 2013[2].

Sub-divided within the jurisdiction of the Provincial Councils are Area Councils, which were established under the *Decentralization and Local Government Regions (Amendment) Act No. 13* of 1997. As of 2021, there are 71 Area Councils present throughout Vanuatu (Figure 3). Municipalities are not considered Area Councils and are rather separate entities empowered by separate Acts.




*Source: Population and Housing Census, 2009*

***Figure 3.*** *Map of Vanuatu showing composition of Area Councils and municipalities, and population density in each*

[2] DFAT. "*Pacific Women Shaping Pacific Development- Vanuatu Country Plan Summary*." 2019.

## 3.2. Legal and regulatory landscape

Internationally, Vanuatu is signatory to several treaties and agreements that hold obligations to stabilize greenhouse gas emissions and support ongoing climate change adaptation, including the United Nations Framework Convention on Climate Change (UNFCCC). Vanuatu ratified the UNFCCC in 1993, the Kyoto Protocol in 2001, the Paris Agreement in 2016, and, as a party to the Convention, developed a National Adaptation Programme for Action (NAPA) in 2007.

### 3.2.1. National level

Vanuatu has responded positively to the climate change challenges from a governance perspective and has established the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) with primary responsibility for coordinating and mainstreaming climate change policies, programs and projects and linking to a “whole of government approach”. The representatives to the NAB are drawn from key government agencies, NGOs and related projects. As per the Meteorology, Geological Hazards and Climate Change Act of 2016 the NAB Secretariat is considered the Corporate Services Unit to the Ministry of Climate Change.

The NAB is a formal government institutional mechanism established in October 2012. Prior to mid-2012, many of the NAB functions were undertaken by two separate entities, namely the National Advisory Committee on Climate Change and the National Task Force on Disaster Risk Reduction. The NAB’s underlying purpose is to bring greater levels of coordination among the many individual climate change and disaster risk reduction projects and to ensure high levels of transparency in the determination of ongoing priorities and funding. The existing NAB structure is shown in **Figure 4**.

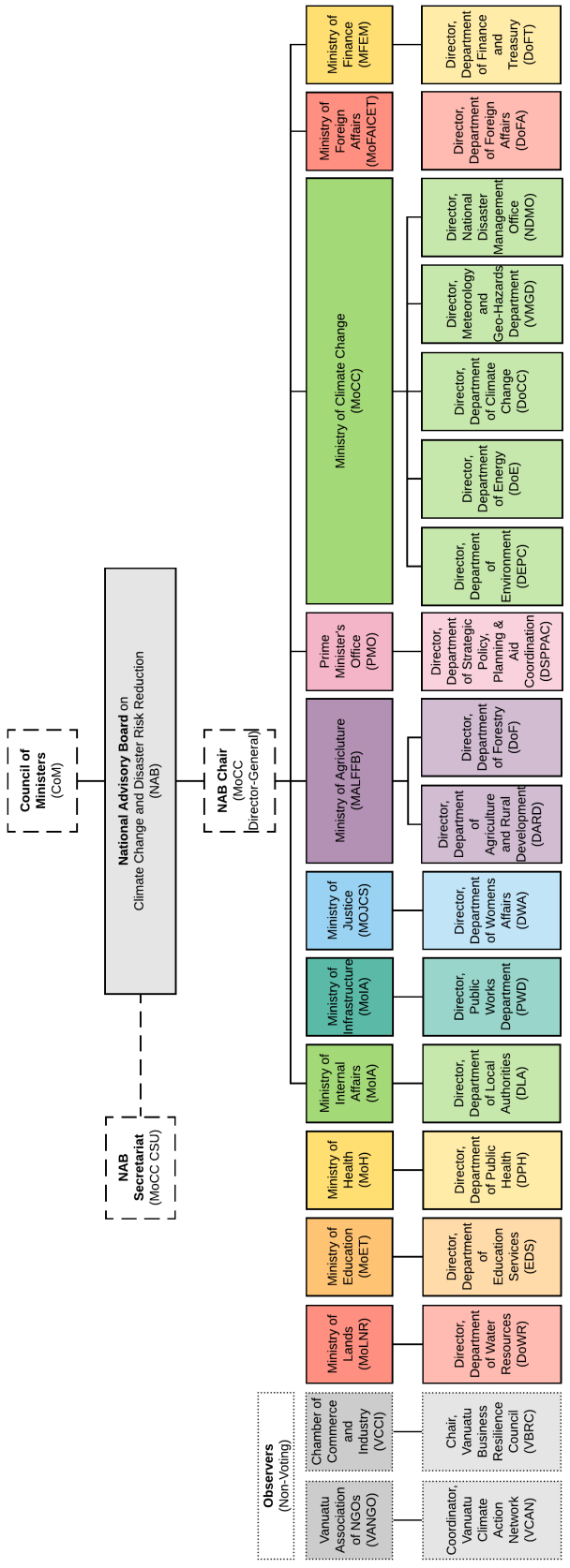



***Figure 4.*** *Vanuatu National Advisory Board (NAB) structure*

The NAB has six primary functions described in the Act, which are summarised as:

1. Act as Vanuatu's supreme policy making and advisory body for all climate change and disaster risk reduction (CC & DRR) programs, projects, initiatives and activities.
2. Develop CC & DRR policies, guidelines and positions.
3. Advise on international, regional and national CC & DRR obligations.
4. Advise, facilitate and endorse the development of new CC & DRR programs, projects, initiatives and activities – including mainstreaming CC & DRR.
5. Act as a focal point for information-sharing and coordination on CC & DRR.
6. Advise, guide and coordinate the development of national CC & DRR financing processes.

The NAB's Secretariat was established to undertake the roles and responsibilities associated with the following strategic areas:

- Strategic Governance and Policy: Including implementation of actions associated with national, regional and international CC & DRR obligations; identification of positions for international summits, identification of CC & DRR priorities, and development of a national policy on CC & DRR.
- Technical Advice, Project Monitoring and Coordination: Including providing technical advice to government departments and NGOs, acting as the coordination point for CC & DRR matters, starting a 'project endorsement process' and 'information materials endorsement process' and working to support standardized approaches.
- Project Management – Financing, Procurement & Administration: Including Secretariat duties for the NAB, investigating funding mechanisms for Vanuatu, providing support and advice on procurement for CC & DRR, and implementing projects.

The project will utilise the functions of the NAB and look for opportunities to further strengthen it. To guide the implementation of effective and efficient adaptation efforts, current relevant Vanuatu legislation was consulted by the design team, including the National Climate Change Adaptation Strategy (2012-2022) and the NAPA. These plans provide policy recommendations; sector specific adaptation plans and outline a systematic, long-term approach to embed climate change adaptation into core national and sector level activities.

The National Climate Change and Disaster Risk Reduction Policy 2016–2030 outlines the country's response to climate change, with focus on the following six strategic priorities:

1. **Governance**: The policy calls for enhanced strategic frameworks and institutional structures that deliver effective CC & DRR initiatives in a coordinating, integrated and complimentary manner. Specific components include a) Institutional Structures, b) Legislation and Policy Frameworks, c) International and Regional Obligations, d) Strategic and Business Plans, and e) Monitoring and Evaluation.
2. **Finance**: The policy aims to ensure adequate resourcing is available for CC & DRR activities, build financial capacity to manage resources, and enable access to increased international funding. Specific components include a) Funding Allocation, b) Implementing Entity Accreditation, and c) Small Grants Schemes.
3. **Knowledge and Information**: The policy seeks to meet stakeholders' needs for CC & DRR knowledge and information and to improve communication-related interventions that empower appropriate CC & DRR actions. Specific components include a)

Information Management, b) Traditional Knowledge, c) Knowledge Sharing, d) Lessons Learned, e) Data Analysis, f) Research, and g) Risk Assessment.

4. **Climate Change Adaptation and Disaster Risk Reduction**: The policy aims to integrate and strengthen CCA and DRR initiatives across national, provincial and local levels, and across all sectors. Specific components include a) Climate and Disaster Vulnerability and Multi-Sector Impact Assessment, b) Integrated CC & DRR, c) Community-Based Adaptation and DRR, d) Loss and Damage, and e) Ecosystem-Based Approaches.

5. **Low Carbon Development**: The policy supports expanding sustainable development opportunities that reduce carbon emissions and simultaneously contribute to resilience livelihoods and wellbeing. Specific components include: a) Energy Road map, Renewable Energy, and Energy Efficiency, and b) Mitigation and REDD+.

6. **Response and Recovery**: The policy mandates strengthening and building capacity in the areas of disaster preparedness, planning, response and recovery. Specific components include a) Planning, b) Preparedness, c) Community Awareness, d) Early Warning Systems, e) Post-Disaster Assessment, and f) Recovery.

The government also produced a National Climate Change Adaptation Strategy for Land-Based Resources (2012–2022) that lays out an approach to identify and implement efficient and effective activities to manage the existing and anticipated consequences of climate change for land-based resource sectors in Vanuatu, namely forestry, agriculture, water, livestock and biodiversity / natural ecosystems.

There are also several national policies within different Ministries and Departments in Vanuatu that aim to address the impacts of climate change on communities through the conservation of biodiversity and natural ecosystems. For marine and coastal systems in particular, the implementation of strategies and actions to sustain livelihoods, food production and ensure biodiversity conservation and reduce land degradation are included in policies administered by the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Environment, Energy, and Disaster Management, Department of Environment Protection and Conservation; the Ministry of Agriculture, Livestock, Forestry, Fisheries and Bio-security (MALFFB), Vanuatu Fisheries Department; and the Ministry of Foreign Affairs, International Cooperation and External Trade, National Oceans Office that also has a coordination role.

Vanuatu's National Sustainable Development Plan (2016-2030) articulates a vision that includes "ensuring the resilience and effective long-term management of our natural, financial and human resources" and its stated development aspirations include enhanced resilience and adaptive capacity to climate change and natural hazards.

A National Integrated Coastal Management Framework (NICMF) and Implementation Strategy were drafted in 2010 with the vision of "*a clean and healthy coastal and marine environment for current and future generations*" and outlines institutional arrangements needed for management of coastal ecosystems to achieve this vision. The draft strategy also highlights the importance of factoring the impacts of climate change into the coastal planning process.

These national plans and strategies provide an important framework for the development and implementation of VCCRP. Most importantly, the NICMF has the potential to recognize the opportunities of Integrated Catchment Management (ICM) as the basis for planning responses to manage the impacts of climate change. From a policy standpoint the VCCRP will seek to complement the NICMF through similar efforts to strengthen the climate responsiveness of other legislation and policy, including the Meteorology, Geological Hazards and Climate

Change Act No 25 2016, Environmental Management and Conservation Act 2002 (incorporating Environmental Impact Assessment), the National Disaster Act 2000, the Forestry Act 2001, the Fisheries Act 2006, the National Parks Act 1993, the National Biodiversity Strategies and Action Plan, and the Water Resource Management Act 2002.

The *Decentralization and Local Government Regions Act* No. 1 of 1994 (Provincial government provisions) and *Decentralization and Local Government Regions (Amendment) Act* No. 13 of 1997 (Area Council Provisions) outline the roles and responsibilities of sub-national governance regarding decentralisation of service delivery across Vanuatu. The Department of Local Authorities (DLA) of the Ministry of Internal Affairs (MoIA) are responsible for implementing the Act and any amendments to the Act. The DLA is currently under-resourced however and lacks the capacity to drive implementation of the Decentralisation Act. As such, VCCRP will support and develop capacity of the Area Councils in project sites through planning, delivery and monitoring of local level climate change adaptation solutions. Working through Area Councils is necessary to ensure that services extend from the national government to the grassroots, and particularly to the most vulnerable communities, and that activities are delivered in a comprehensive and integrated manner.

### 3.2.2. Provincial level

According to the Decentralization Act (Part Two), Local Governments have two layers: Provincial Government Councils and Area Councils, consisting of smaller geographic divisions within the provinces and some provinces, like Shefa, have created an intermediary layer known as a "Sub-Districts") (**Figure 5**). Each Provincial Government is composed of elected officials (for four years) and appointed members including the Provincial Secretary General who is selected by the Public Service Commission as per the Public Service Commission Act.

The Secretary General, as the Chief Executive Officer of the Provincial Government Council for which s/he is appointed, has responsibility for all accounts, records and other documents of the Provincial Government Council.

The Provincial Government Council financial year is 12 months commencing on 1 January each year. Provincial Government Councils should have a "Provincial Government Fund" consisting of the grants received from the national government, plus all local taxes, fees, rents, fines and profits from trade lawfully levied by the Local Government Council.

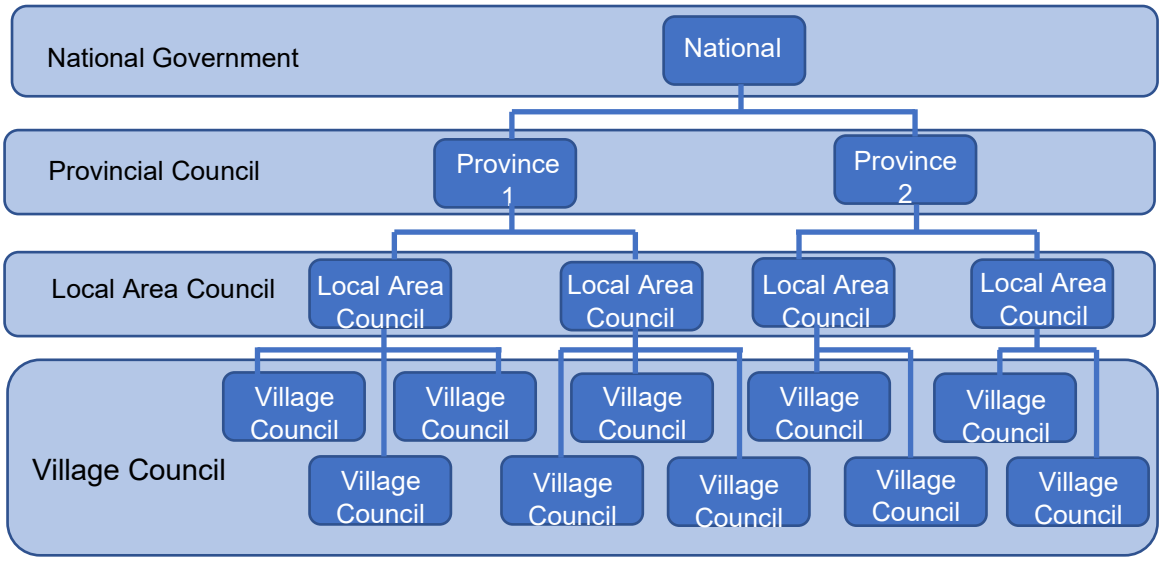



***Figure 5.*** *Vanuatu government structure and levels*

### 3.2.3. Area Council level

The Decentralization Act allows for the Minister of Internal Affairs on the advice of each Provincial Government to divide a local government region into Area Council divisions or districts and may alter those divisions or districts. The Area Councils are responsible for reporting to the Provincial Government and provincial government administration.

The term "Area Council" refers to:

1 the governance body comprised of local level representation including five representatives for chiefly authorities, women's groups, youth groups, business houses and church houses (and sometimes representatives of People with Disabilities), which is often supported by Area Administrators, Community Liaison Officers and government extension officers working within the Area Council geographic boundaries. Budget allocations are provided to these Area Councils to support established work plans developed by the Area Council members themselves; and

2 the boundaries of the sub-divided geographic area that has been designated to nominate representatives to form an "Area Council governance body" reporting to the provincial council.

The Government has nearly completed the process of establishing each of the local Area Councils.

The number of Area Councils and the boundaries of Area Council has slowly but consistently shifted over the years following changes in political will and an increasing priority from the national government to improve the decentralization of its service delivery.

Accurate GIS and mapping data for Vanuatu's 71 Area Councils was not available in 2021 upon request by the VCCRP design team. The DLA and the Vanuatu National Statistics Office (VNSO) do not currently have the updated boundary data for the 71 Area Councils (only a previous GIS boundary data for 71 Area Councils in available at present (see **Figure 3**, above). This has not hindered the proposal development or the assessment of Area Council vulnerability, with new naming used (previous naming indicated for clarity).

The Area Council governance bodies have an advisory and consultative role in government as they are comprised of representative leadership from local communities within the geographic boundaries of the Area Councils. They are often supported by provincial staff called Area Administrators and Community Liaison Officers (CLO), the latter of which were formerly referred to as Area Secretaries.

Area Administrators are a relatively new staffing position created by the national government in 2018 and consist of more technically qualified staff (often university graduates) applying through the Public Service Commission (non-political appointments). Duties of the Area Administrator include facilitation of overall decentralization services to constituents of the Area Council, supporting the nominated Area Council governance body, and oversight of the CLO and other staff working for the Area Council.

Community Liaison Officers (formerly known as Area Secretaries) duties include tax collection, voter registration, and supporting government and NGO projects and initiatives taking place within the Area Council. These staffing positions are hired directly through the provincial council, and are sometimes but not always based on political influences.

Each Area Council governance body is mandated to meet at least four times per year. Area Council funds consist of monies received from the relevant Local Government Council and other sources.

Area Councils, supported by the respective Area Administrator and / or CLO, are comprised of delegates representing Chiefs, Churches, Women, Youth, Business Houses (and in some Area Councils - people with disabilities). These delegates are selected to be representative of the various villages and sub-communities which form together to create the Area Council. Amendments to the Decentralization Act outline the functions of Area Councils as follows:

- Review and consolidate community action plans for each community within that area council division or district;
- Develop an Area Council Strategic Development Plan for the relevant area council division or district; and
- Coordinate, monitor and report to the relevant Provincial Government Council on the implementation of the relevant Area Council Strategic Development Plan.

It is widely acknowledged that Area Councils are under-resourced and generally lack the capacity to perform their mandated responsibilities. As such, this provides a strategic opportunity for VCCRP to assist in strengthening Area Council governance systems and capacity through more effective planning and management of local resources. The requirement that women and youth are represented on all Area Councils provides an important strategic opportunity for VCCRP to work with marginalized people to ensure their needs are fully considered when formulating Area Council annual plans with respect to climate change issues.

The level of functionality of Area Councils varies dramatically across Vanuatu, as some Area Councils do not yet have Area Administrators placed in a supportive role. There is no standardized assessment process to measure the functionality of Area Councils, but consultations with Area Councils and Provincial Government Councils conducted by the Vanuatu Coastal Adaptation Project in 2018-2020 found that numerous Area Councils have been unable to form work plans, hold planning meetings, or receive budgetary allocations. The Torres Islands Area Council for example, reported that only one meeting was held by the Area Council between 2014-2018 (before the appointment of its Area Administrator). The varying capacities of individual Area Councils was confirmed during consultation meetings with MoIA/DLA for the VCCRP project and is one of the factors that will be considered in the site selection process.

Challenges impacting the functionality of Area Councils include geographic barriers making transport of Area Council members difficult, limited or no budget available for transport, lack of communication networks, lack of human resources (no Area Administrators hired to support Area Councils yet), lack of banking institutions in certain Area Councils, and lack of office facilities and equipment.

The geographic boundaries and composition of Area Councils vary drastically throughout Vanuatu as well. Typically, Area Councils consist of a multiple number of villages (although the Mele / Mele-Maat Area Council in Shefa Province is comprised of 1 village and its sub-communities). Area Councils sometimes consist of entire islands (such as Aniwa Area Council or Paama Area Council) or one island may contain multiple Area Councils (Santo Island has 9 Area Councils).

### 3.2.4. Community Disaster and Climate Change Committees

Climate change is linked with both changes in long-term climate trends and the occurrence of short-term hazards. In turn, disasters damage livelihoods and welfare, reducing resilience to climate change. NDMO, with the support of NGO partners, has been working since 2008 to address this, when they established Community Disaster Committees. This evolved around 2015 to recognise the impacts of climate change, with committees renamed to Community Disaster and Climate Change Committees (CDCCCs) across the country to facilitate community-level action to increase disaster preparedness, facilitate immediate local disaster response and support local-level activities to support climate adaptation.

At the local level, CDCCCs have been established in many communities around Vanuatu, which provides the local coordination structure. It should be noted that while many CDCCCs have been formed, most communities still do not have a CDCCC. The NDMO is working with mostly NGO partners to train more CCDCCs. The CDCCCs report to the Area Councils and the Area Councils report back to the Provincial Disaster Committees (PDC).

Provincial Disaster Committees (PDC) are formed in each of the six provinces in Vanuatu. All provinces have provincial disaster plans. PDC coordinate disaster preparedness and response at the provincial level and manage response for small-scale and localized emergencies. The Secretary General of the Province serves as the chair of the PCD and the NDMO Provincial Disaster Officer (PDO) act as the Coordinator of the PDC. Provincial Disaster Plans are currently being developed for each province.

Most Area Council's governance bodies have yet to develop Area Council disaster plans – or receive formal training in the area of DRR / DRM, yet Area Council staff (Area Administrators and CLO) are tasked with coordination efforts between the CDCCC and PDC. This is a considerable gap that VCCRP could support at the Area Council level.

The Disaster Risk Management Act No. 23 of 2019 emphasizes supporting Provincial Disaster Offices to establish community-level CDCCC, as well as building technical capacity and enabling disaster response at the Area Council level. However, there is no legislative act recognizing CDCCC or their relationship with Area Councils, thus as of 2021 most arrangements between the two bodies are informal. During consultations for VCCRP with the DLA and NDMO, the need to formally recognize the role of CDCCC in legislation and their role / relationship with Area Councils was expressed.

Through the Disaster Ready Project (funded by the Australian Humanitarian Partnership), several international NGOs are looking to increase the number of CDCCC. The project is in the fifth year of funding and consists of a consortium of Australian NGOs (led by SCA) working with local stakeholders:

- SCA in partnership with, Ministry of Education and Training as Co-lead of the Education cluster; NDMO; Sanma Provincial Government; Caritas Australia/CAN DO in partnership with Vanuatu Christian Council and member churches,
- CARE Australia in partnership with the NDMO; Department of Women's Affairs; Gender and Protection cluster partners including Vanuatu Society for People with Disabilities; Disability Promotion and Advocacy Association; Vanuatu Women's Centre; Vanuatu Humanitarian Team partners; Tafea Provincial Government; Nasi Tuan,
- Oxfam Australia in partnership with NDMO; VSPD; DPA; Wan Smol Bag; and the Shefa Provincial Council,

- Plan International Australia and ActionAid in partnership with DWA; Women I TokTok Tugeta; Pacific Disability Forum,
- Penama Provincial Government and Area Councils, and
- World Vision Australia in partnership with Sanma Provincial Government and Area Councils.

Disaster Ready partners are working across Vanuatu to increase capacity, coordination and inclusion in DRR. Additionally, the Vanuatu Red Cross is assisting in establishing CDCCC and UNICEF and SCV are conducting DRR programming with schools in Penama and Sanma Provinces.

While international aid has historically been very important for post-disaster response in the wake of cyclones, TC Harold (2020) occurred under the unique conditions of COVID-travel restrictions. In this vacuum of external intervention, CDCCC showed tremendous capacity for managing local response (e.g., food distribution). In the climate context of increased frequency of disasters, government and international resources for disaster preparedness and response will be increasingly spread thin. Fortifying CDCCC capacity and local-level empowerment is a promising strategy for supporting communities to solve their own problems while also improving disaster preparedness, and the timeliness and effectiveness of disaster response. For example, if CDCCC were trained to use the NDMO first community assessment form and have the capacity to assess sectors (e.g., food, WASH, education) NDMO would be better able to make rapid decisions in the wake of a disaster.

CDCCC are commonly using Facebook pages to communicate information to community members. These pages are also a useful tool for monitoring the effectiveness of CDCCC communication strategies and needs for capacity building.

Currently community members participate in CDCCC on a volunteer basis, which is in keeping with the volunteer structure of other community committees common in villages. The volunteer structure has posed a challenge to the success of the CDCCC because the committees only tend to be active when responding to disaster, instead of maintaining year-round activities to improve food-security, water security and safety. While paying CDCCC members could negatively disrupt the functioning of other volunteer-driven committees in the communities, incentives for year-round participation might be improved increasing CDCCC access to resources for implementing activities and the establishment of a CDCCC office in each community. A key outcome this project will be to have CDCCC formally recognised in the service delivery structure as way of getting them sustainable resourcing and support.

## 3.3. Policy landscape

The VCCRP is specifically designed to support achievement of the climate-relevant objectives of key sector policies and strategies in Vanuatu. Adaptation is the key focus of Vanuatu's approach to addressing climate change impacts. In its Nationally Determined Contribution (NDC), Vanuatu highlighted adaptation as the country's overriding concern (GoV 2021). In response to the climate threats facing Vanuatu, the NAPA initiated consultation and collaboration at several levels of government to identify urgent actions to increase climate change resilience. The NAPA identified five adaptation priority areas for Vanuatu: i) agriculture and food security; ii) sustainable tourism development; iii) community-based marine resource management; iv) sustainable forest management; and v) integrated water resource management.

The Vanuatu Climate Change and Disaster Risk Reduction Policy 2016-2030 (CCDRR Policy) builds on the work of the NAPA and other adaptation and DRR efforts, in which these priority

areas were updated to become: i) governance; ii) finance; iii) knowledge and information; iv) climate change adaptation and disaster risk reduction; v) low carbon development; and vi) response and recovery.

In 2018, the Government of Vanuatu prepared the GCF Country Programme for Vanuatu, complementing the NAPA and CCDRR Policy and assisting with prioritisation of adaptation investments. The GCF Country Programme was updated in 2021. Vanuatu's NAPA, CCDRR Policy and GCF Country Programme are fully aligned with the country's National Sustainable Development Plan (NSDP).

The NSDP, the highest public policy framework in the country, explicitly includes climate change adaptation as a key sustainable development priority. The policy's Environment Pillar 1: Food and Nutrition Security includes policy objective ENV 1.5: Enhance traditional agricultural practices, focusing on disaster risk reduction and climate change adaptation. More prominently, Environment Pillar 3: Climate and Disaster Resilience includes five policy objectives all related to adaptation, namely: ENV 3.1) Institutionalise climate change and disaster risk governance, and build institutional capacity and awareness; ENV 3.2) improve monitoring and early warning systems; ENV 3.3) Strengthen post-disaster systems in planning, preparedness, response and recovery; ENV 3.4) Promote and ensure strengthened resilience and adaptive capacity to climate related, natural and man-made [*sic*] hazards; ENV 3.5) Access available financing for climate change adaptation and disaster risk management.

Actions by the Government of Vanuatu on national priorities for climate change adaptation in 2021 include efforts to enhance its NDC (2020-2030) to provide for quantifiable adaptation targets (GoV 2021a). The updated NDC includes specific adaptation targets and indicators aimed at enhancing the resilience of the agriculture sector and water sector, identifying five key areas, namely: i) urgency, ii) adaptation impact potential, iii) alignment with current frameworks, policies and processes, iv) usability, relevance and sustainability, and v) achievability and data available. Specifically, the updated NDC includes the following relevant targets:

- **Ag1**: By 2022, 80% of agriculture small and medium enterprises (SMEs) and private sector operators are able to generate sufficient income to cover essential household needs and services in normal and (climate, disaster and environmentally) stressed times.
- **Ag2**: By 2030, 100% of identified measures for enhancing the resilience of subsistence agriculture in a changing climate in the six provinces have been implemented.
- **Wa1**: By 2030, 100% of water-climate vulnerable rural communities in the six provinces have developed DWSSP and are able to address water needs in normal and (climate, disaster and environmentally) stressed times.
- **Wa2**: By 2030, six climate-resilient water protection zones declared and sufficiently provides urban water supply needs in normal and (climate, disaster and environmentally) stressed times.

Additionally, the Government of Vanuatu is expected to operationalise the National Vulnerability Assessment Framework (VAF)[3] as well as secure external climate financing to design, trial and operationalise a National Adaptation Plan (NAP) to build on the previous NAPA.

[3] Government of Vanuatu (2018a) *The Vanuatu Vulnerability Assessment Framework: A Guide for Sustainable and Transparent Climate Resilience Investment Decisions.* Available here.

The VCCRP will directly respond to Government of Vanuatu Policy Frameworks, including:

- Updated NDC (2021): The Government of Vanuatu submitted to the UNFCCC Secretariat on 22 March 2021 the country's Updated Nationally Determined Contribution. Included are quantifiable adaptation targets to accompany the existing mitigation targets set out in earlier submissions.
- *NDC Implementation Roadmap (2019):* While adaptation targets were not set in the initial 2016 NDC, this Roadmap reiterates the adaptation priorities identified and prioritised in the NAPA and CCDRR Policy. Adaptation targets set in the updated NDC for agriculture and water are consistent with this Roadmap.
- *Meteorology, Geological Hazards and Climate Change Act of 2016:* This legislation directly mandates the GoV to address the adverse impacts of climate change. Among the objectives of the act include promoting capacities of government, communities and organisations to understand and respond to risks arising from extreme weather events, climate change and geological hazards as well as facilitating the use of relevant information, forecasts, bulletins and warnings for adaptation planning generated and disseminated. Both broad goals are supported by the design of this project.
- *Disaster Risk Management Act of 2019*: This updated legislation maintains a commitment to integrating CCA at all levels of government, ensuring development and implementation of DRR actions at all levels of government, and supporting a whole-of-society approach to DRR among other goals, all of which are supported by this project.
- *National Sustainable Development Plan (2016-2030)*: Climate and disaster resilience is a key outcome area under the Environment Pillar of the NSDP. This project will contribute to a range of the specific policy objectives under the pillar. This project will also assist in meeting outcomes under the Society and Economy pillars.
- *National Climate Change and Disaster Risk Reduction (CCDRR) Policy (2016-2030)*: highlights community-based adaptation as an objective. This project will also make contributions to priorities in governance, finance, and knowledge and information.
- *National Climate Change Adaptation Strategy for Land-Based Resources (2012-2020)*: This policy recognises Vanuatu's vulnerability to climate change and provides guidelines on how to address the impacts thereof on the country's land-based resources — including forests, crops, water, livestock and ecosystems. In doing so, the Strategy lists 496 practical strategies for the country to adapt to climate change across these sectors, which range from preventing illness among animals to improving drought early warning systems. The project will align its activities for addressing land-based resources, namely agriculture and food security, with the recommendations provided in this report, as well as more current sources such as the NAPA.
- *National Environment Policy and Implementation Plan (2016-2030):* The overarching policy for the sustainable conservation, development and management of the environment of Vanuatu. The plan has 7 policy objectives, all of which relate to climate change. These objectives are: i) conservation of biological, ecosystem, genetic, human and cultural diversity; ii) sustainable resource management; iii) waste management and pollution control; iv) climate change; v) environmental governance and capacity development; vi) sustainable growth and development; and vii) financing and economic instruments. The project aims to address the majority of the policy objectives, including climate change, sustainable resource management, and sustainable growth and development.
- *National Agriculture Sector Policy (2015-2030)*: This project will assist Vanuatu to meet policy directives related to climate variability, climate change and DRR, environmental protection, food security, and gender and vulnerable groups.

- *National Fruits and Vegetables Strategy (2017-2027):* The strategy aims to ensure that systemic measures are put in place for enhancing coordination and management of the sector and to ensure as well that a certain level of consistency is maintained within the fruits and vegetable sector and a certain level of quality is maintained within the fruits and vegetable sector and a certain level of quality is maintained throughout the whole value chain despite external factors including climate change. The project aims to align all food security related interventions to the strategic direction and recommendations outlined in this strategy.
- *National Fisheries Sector Policy (2016-2031)*: Aims to ensure that fisheries are a sustainable, long-term resource. This project will support building the resilience of community fisheries to a range of climate impacts.
- *National Gender Equality Policy (2015-2019)*: Highlights the gendered nature of climate change impacts and includes an indicator to ensure that climate change and DRR are gender responsive. This project will support the achievement of this indicator and any further relevant indicators contained in an updated policy.
- *National Land Use Planning Policy (2012-2017)*: Aims to ensure the sustainable use and effective management of land resources. This project will support Vanuatu to meet directives on risk and vulnerability management (largely related to climate and disaster risks) in planning processes at the local level.
- *Vanuatu's Country Programme for the Green Climate Fund (GCF) (2018, 2021b)*: The VCCRP is included as a high priority[4] project within the GCF Country Programme and will address key challenges at the community level.
- Development of Implementation Plan for CCDRR policy: As of April 2021, the DoCC is finalising an Implementation Plan to accompany the CCDRR Policy, focusing on the next five years (2021 – 2025) of implementation.
- Development of M&E framework for CCDRR Policy: the DoCC is developing a Monitoring and Evaluation (M&E) Framework for the National CCDRR Policy with funding support from USAID.
- National Aid Management Policy: This is under review by the Department of Strategic Planning, Policy and Aid Coordination, the Aid Management Policy seeks to provide direction for the government to coordinate and manage all development assistance flows to enhance the overall effectiveness of the assistance to achieve national development outcomes. The policy will also provide direction to Vanuatu's development partners so there is a true partnership for development planning, management and evaluation. An accompanying document, the National Aid Management Policy Implementation Strategy, identifies the functions, responsibilities and processes that accompanies and further implements the AMP.
- National Oceans Policy 2016-2030: The National Ocean Policy sets out the policy direction for modern marine management which includes traditional marine resource management, knowledge and systems, as well as ecosystem-based ocean management and planning. The policy outlines the overarching implementation arrangements and guiding principles for better management of Vanuatu's ocean.
- National Water Policy 2017-2030: The National Water Policy seeks to deliver the policy objectives established by the NSDP, specifically – ECO 2.2 to ensure safe water services for all, ENV 4.2 to protect community water sources, ENV 4.7 to build community natural resource management capacity, SOC 3.2 to reduce communicable diseases, SOC 6.5 to strengthen local authorities to enable decentralised service

[4] Second project listed under 'Annex 4.4: Prioritised Pipeline of Ideas A'

delivery, and SOC 6.6 to strengthen physical planning to meets the need of a growing population.

- National Water Strategy (2018–2030): The Vanuatu National Water Strategy was developed to follow conclusion of the National Water Strategy (2008-2018) within the policy priorities established in the Vanuatu National Water Policy (2017-2030). The Water Strategy is mean to provide greater detail on the strategic actions necessary to achieve the National Water Policy objectives.
- Vanuatu National Vulnerability Assessment Framework: Vanuatu has adopted its own National Vulnerability Assessment Framework. The Framework was developed to provide a common climate vulnerability assessment framework that could be applied consistently across sectors and governance levels (national and sub-national) for: a) identifying people and places that are particularly vulnerable to climate change and the nature of their vulnerability; b) institutionalizing a gender-sensitive and socially inclusive approach to resilient development; c) adaptively managing climate and disaster resilient interventions in accordance with evolving national sustainable development priorities.
- Vanuatu National Roadmap for Coastal Fisheries (2019-2030): The project aligns with the Vanuatu Fisheries Department coastal fisheries roadmap by directly aligning with government at all levels to promote community-based coastal marine resource management approaches.

## 3.4. Complementary projects and initiatives in Vanuatu

There are several other projects in Vanuatu that are currently being implemented or in the design phase and due to commence in 2021-2022 that are also seeking to address climate change adaptation gaps. These projects focus on climate impacts and building resilience of government systems, sectors and communities with differing focus or scope to the VCCRP project. Given the high risk and vulnerability of Vanuatu to climate change and natural hazards multiple projects are needed to address the adaption gaps. The projects listed will not create duplication, but the VCCRP project has considered them to ensure no scope overlap or to work collaboratively to produce synergies and efficiencies. A full list of projects and their status is provided in Table 1, and most relevant among those are described below in further detail.

***Table 1.*** *Complementary projects to the VCCRP*

| Complementary Project Title | Key Proponent(s) | Status | Duration | Donor |
|---|---|---|---|---|
| Climate Information Service for Resilient Development in Vanuatu project, also known as 'Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt' (Van-KIRAP) (GCF FP035) | SPREP, GoV (VMGD) | Open | 2018-2022 | GCF |
| National Green Energy Fund | SPC, GoV (Department of Energy) | Design | TBC | GCF |
| Pacific Climate Change Collaboration Influencing Learning (PACCCIL) Project | Oxfam, VCAN | Open | 2018-2022 | DFAT |
| Disaster READY | Australian Humanitarian Project, World Vision, CARE | Open | 2017-2022 | DFAT |

| | | | | |
|---|---|---|---|---|
| | Intl', Save The Children, CAN DO | | | |
| Enhancing Early Warning Systems to Build Greater Resilience to Hydro Meteorological Hazards in the Pacific SIDS | WMO, GoV (VMGD) | Open | 2017-2022 | GCF |
| Vanuatu Infrastructure Reconstruction and Improvement Project (VIRIP) | GoV (MIPU) | Open | 2017-2022 | World Bank |
| Vanuatu Ecosystems and Adaptation Project | UNEP | Closing | 2016-2021 | GCF |
| Building Resilient Communities in Vanuatu (BRCV) Program | Vanuatu Red Cross Society (VRCS) | Open | | |
| Vanuatu Pathways project – Phase 2 | ACIAR, VFD, ANCORS (University of Wollongong), SPC, WorldFish | Closing | 2018-2021 | DFAT |
| Vanuatu Coastal Adaptation Project (VCAP) – Phase 2 | UNDP, GoV (DoCC) | Design | 2021 à | GEF |
| Pacific Ecosystem-based Adaptation to Climate Change (PEBACC) – Phase 2 | SPREP, DEPC, MFFLAB | Design | 2021 à | KIWA |
| Expanding Conservation Areas Reach and Effectiveness (ECARE) in Vanuatu | IUCN, DEPC, Oceans Office | Design | 2021 à | GEF |
| Conserving and Rehabilitating Vanuatu's Forests: Protecting Biodiversity, Fostering Cultural Practices to Enhance Livelihoods, and Increasing Resilience and Adaptability in the Face of Globalisation and Climate Change also known as 'Plants mo Pipol blong Vanuatu' | USP, Univ of Hawaii, CSU East Bay, Swarthmore College, GoV (DoF, DEPC) | Design | 2021 à | NY Botanical Garden |
| Enhancing Climate Resilience of Vulnerable Communities to Support Livelihoods in Vanuatu | World Bank, GoV (DoF) | Design | 2021 à | GCF |
| Enhancing Adaptation and Community Resilience by Improving Water Security | SPC, UNICEF, GoV (DoWR) | Design | 2021 à | GCF |
| An Integrated Response for Climate Change Mitigation and Adaptation for Agriculture in Samoa, Vanuatu and Tonga | SPC, GoV (DARD) | Design | 2021 à | GCF |
| Assess Pacific Climate Change by 2100 to Develop or Strengthen Vanuatu's Adaptation Strategy | IRD, Meteo France, GoV (VMGD) | Design | 2021 à | AFD |

| | | | | |
|---|---|---|---|---|
| Vanuatu National Vulnerability Assessment Information and Knowledge Management Institutionalisation (NVA) | GoV (MoCC) | Design | 2021 à | GCF |
| Enhancing Adaptation Actions through the National Adaptation Plan of Vanuatu | UNEP, GoV (MoCC) | Design | 2021 à | GCF |
| Pacific nature-based solutions in Vanuatu, Kiribati, Fiji, Tonga | UNDP, VFD, Oceans Office, Live & Learn (Australia & Vanuatu) | Design | 2021 à | New Zealand MFAT |
| Vanuatu Pathways project – Phase 3 | ACIAR, VFD, ANCORS (University of Wollongong), SPC, WorldFish | Design | 2022 à | Australian DFAT |
| Vanuatu Coastal Adaptation Project (VCAP) – Phase 1 | UNDP, GoV (DoCC) | Closed | 2014-2018 | UNDP/ GEF |
| Pacific Ecosystem-based Adaptation to Climate Change (PEBACC) | SPREP, DEPC, MFFLAB | Closed | 2015-2020 | International Climate Initiative (IKI) |
| Mobilising the Vanuatu Private Sector Towards Climate Change Action | GGGI, VCCI | Closed | 2019-2020 | GCF |
| International Youth Cooperation Project (IYP) also known as 'Pikinini Redi Long Disasta' | VRCS | Closed | 2019-2020 | Japan Red Cross |
| Institutional Strengthening for Pacific Island Countries to Adapt to Climate Change (ISAAC) Project | SPC, SPREP, GoV (DoCC) | Closed | 2015-2020 | USAID |
| Vanuatu Cross Cutting Capacity Development Project (CB2 or CCCD) | UNDP, GoV (DEPC) | Closed | 2017-2020 | GEF |
| Coping with Climate Change in the Pacific Island Region (CCCPIR) | SPC, GIZ | Closed | 2009-2015 | BMZ |
| Increasing Resilience to Climate Change and Natural Hazards in Vanuatu (IRCCNH) | GoV (DoCC) | Closed | 2013-2017 | World Bank |
| RESCCUE – Vanuatu | SPC, MFFLAB, Opus/WSP, C2O, L&L, Landcare NZ | Closed | 2015-2018 | AFD, FFEM |

### 3.4.1. Alignment with GCF FP035 Van-KIRAP project

The Climate Information Services for Resilient Development in Vanuatu (CISRD) Project (known locally as Vanuatu Klaemet Infomesen blong Redy, Adapt mo Protekt; Van-KIRAP)

was one of the first GCF proposals to be approved at the MoCC/NAB. The project proposal was approved by the GCF Board in 2016 and officially launched in 2018. The project aims to enhance national climate information services through enhanced collection, management and dissemination of information to address key climate change vulnerabilities and support climate resilient development. Through the delivery of tailored CIS, with a focus on five priority development sectors; water, agriculture, fisheries, tourism, infrastructure, the project will develop user-friendly communication products and pathways. This information will feed into the forthcoming NAP (where stakeholders will be expected to identify their adaptation needs). The VCCRP will work closely with the Van-KIRAP team based at the Vanuatu Meteorology and Geo-Hazards Department (VMGD) as well as those in-country and abroad with the SPREP project team. The VCCRP design team has collaborated with SPREP and the Government of Vanuatu to ensure the two projects will be closely linked and mutually reinforcing. There are a number of key points of synergy between VCCRP and Van-KIRAP that will help enhance the impact of both projects. This is particularly related to VCCRP activities involving early warning systems (Output 1.2) and CIS (Output 2.2), which will compliment those of Van-KIRAP by supporting and scaling-up community-level activities where appropriate, such as those in Van-KIRAP Outcome 2 (sector-specific CIS development case studies) and Outcome 3 (customised communication, capacity development and outreach resource materials). See Table 2, below, for specific points of alignment between the projects.

Additionally, this project builds directly on the achievements of a range of current and previous adaptation/DRR projects in Vanuatu, including Save the Children's previous community-based adaptation (CBA) and broader community development work, as well as by work undertaken by key government departments, often supported by development partners. Through previous CBA projects, we have gained a clear understanding of the key climate-related challenges facing ni-Vanuatu communities across a variety of geographies and socio-economic contexts. In the development of this concept, the design team has engaged closely with key government departments and drawn from existing participatory climate vulnerability and capacity assessment processes undertaken with vulnerable communities.

***Table 2.*** *Synergies between Van-KIRAP and VCCRP*

| **Van-KIRAP (Van CISRD / FP035)** | | **VCCRP (proposed project)** | | **Synergies** |
|---|---|---|---|---|
| Output 2.1: CIS implemented within target Sectors | | Output 2.3: Climate resilient fisheries for food security and livelihood development | | |
| Activity 2.1.2 | Improving food security in Vanuatu by using climate information to prepare for and respond to temperature impacts on coastal fisheries<br><br>*Case study is focusing on four sites:*<br>→ *Pounangisu (Efate)*<br>→ *Tomman Island (Malekula)*<br>→ *Nalema (Epi)*<br>→ *Mystery island (Aneityum)*<br><br>*Will be collecting data from 'hot' and 'cold' hotspots, to* | Activity 2.3.1 | Build community capacity on coastal resource management and monitoring that supports sustainable fisheries | VCCRP to utilise FP035 outputs as an input into community training, including facilitating access to FP035 CIS on an ongoing basis |

| | | | | |
|---|---|---|---|---|
| | *develop appropriate fisheries management interventions based on the stock assessments, survey and data collected on physical parameters measured. These interventions will feed into National, Provincial and Community-level management, strategic and/or response plans for climate adaptation.*<br><br>*Will also be developing Management Plans for Community MPAs; storage and alternative food preservation methods; developing DSS; vulnerability mapping; seasonal climate forecasts and; sector relevant CIS information.* | | | |
| Output 2.2: CIS is incorporated into community practices | | Output 1.3: Communities have increased access to climate information services and early warning systems and the skills to utilise them as adaptation tools | | |
| Activity 2.2.1 | Establishing community demonstration sites<br>a. Selection and establishment of demonstration sites<br>b. Strengthening community centres to be conduits of climate information<br>c. Establishing community champions<br>*Focus for the initial community engagement / centres is in Sanma and Torba. This is a definite clear link as the Project is also to utilise current networks on-ground rather than create new mechanisms / pathways.* | Activity 1.3.1<br><br>Activity 1.3.2 | Develop and distribute CIS IEC products to support community adaptation awareness raising and adaptation planning processes<br><br>Build capacity of Area Council Climate Change Officers and CDCCCs to effectively utilize CIS in community planning processes | VCCRP's engagement in the 29 of the most climate-vulnerable Area Councils in the country will provide a platform to extend FP035's local-level CIS activities to a significantly larger number of communities |
| Output 2.2: CIS is incorporated into community practices | | Output 1.3: Communities have increased access to climate information services and early warning systems and the skills to utilise them as adaptation tools<br><br>Output 2.2: Climate resilient agriculture for food security and livelihood development<br><br>Output 2.3: Climate resilient fisheries for food security and livelihood development | | |
| Activity 2.2.2 | Community-based activities at demonstration sites using CIS tools / traditional knowledge<br>a. Community-chosen projects utilising CIS<br>b. Communication, engagement and outreach activities to ensure uptake of CIS into daily practices and decision-making | Activity 1.3.1<br><br>Activity 1.3.2 | Develop and distribute CIS IEC products to support community adaptation awareness raising and adaptation planning processes<br><br>Build capacity of Area Council Climate Change Officers and CDCCCs to effectively utilize CIS in | VCCRP will draw on FP035 demonstration activities at the local level to scale up climate resilient agriculture and fisheries practice across and additional 29 Area Councils, utilising CIS inputs. VCCRP will also build |

| | | | | |
|---|---|---|---|---|
| | *FP035 is working with APCC on Agro-met predictions for target cropping systems, exploring threshold analysis of crops using climate models, and sector relevant CIS.* | Activity 2.2.1<br><br>Activity 2.3.2 | community planning processes<br><br>Support adaptations to traditional farming methods to increase climate-resilience and increase food security<br><br>Support communities to adopt primary community-based fisheries management to reduce climate change impacts | on FP035's CIS tools to increase the effectiveness of local EWS across 10-20 Area Councils. |
| Output 3.1: Incorporating Traditional Knowledge into climate information services in Vanuatu | | Output 1.3: Communities have increased access to climate information services and early warning systems and the skills to utilise them as adaptation tools | | |
| Activity 3.1.1 | Integrating traditional knowledge into CIS tools and information<br>a. Develop a project-wide traditional knowledge plan.<br>b. Design community-based Traditional Knowledge and local language (Bislama) resources<br>c. Develop tools and information combining TK and science data into CIS tools | Activity 1.3.1 | Develop and distribute CIS IEC products to support community adaptation awareness raising and adaptation planning processes | VCCRP will build on FP035's local level engagement and local language materials, tailoring them to the context of 29 of the most vulnerable Area Councils. VCCRP will also draw on FP035's CIS tools and information as an input to the integration of climate change risks into sub-national planning processes |
| Output 3.3: Communications, engagement and outreach undertaken to produce and disseminate CIS to end-users | | Output 1.3: Communities have increased access to climate information services and early warning systems and the skills to utilise them as adaptation tools | | |
| Activity 3.3.1 | Communication, engagement and outreach across sectors and communities<br>a. Development of communication, engagement and outreach strategy<br>b. Development and dissemination of communication products<br>c. Develop and publish education and awareness materials for sector case studies<br>d. Outreach activities linked to sectors and climate centres | Activity 1.3.1<br><br>Activity 1.3.2 | Develop and distribute CIS IEC products to support community adaptation awareness raising and adaptation planning processes<br><br>Build capacity of Area Council Climate Change Officers and CDCCCs to effectively utilize CIS in community planning processes | FP035 is focused on increasing the accessibility and useability of CIS for planning and implementation in Vanuatu. VCCRP will build on FP035's work to further contextualise and then scale out the accessibility of CIS at the local level in 29 of the most vulnerable Area Councils in the country |

### 3.4.2. Alignment with GCF readiness activities in Vanuatu

Vanuatu has had five GCF Readiness Proposals approved from 2015 to date (Table 3).

***Table 3.*** *Vanuatu GCF Readiness Proposals*

| Project Title | Accredited Entity | Status |
|---|---|---|
| 1. Readiness Support to prepare full project proposal for CISRD | SPREP | Activities in-country complete |
| 2. GCF Readiness Focused on NDA strengthening and Strategic Framework | GIZ | Complete |
| 3. Readiness Support for the Development of the Vanuatu National Green Energy Fund | GGGI | Activities in-country complete |
| 4. Mobilizing Vanuatu private sector towards climate change action | GGGI | Current |
| 5. Enhancing Vanuatu's ability to seek accreditation and direct access to the GCF | GGGI | Current |

The first Readiness support proposal (SPREP) was focused on carrying out consultations to enable the development of a full funding proposal on CIS that would support resilient development, for consideration and approval by the GCF. The project included three stakeholder consultations for input to project design, both at national level and sub-national level. At workshops awareness was raised on GCF and the value of CIS in resilient development. The project has since concluded and the full GCF project (FP035, CISRD / Van-KIRAP) is now underway. The VCCRP will build upon the Readiness activities funded during this project, such as feasibility and technical studies regarding the development and usage of CIS in Vanuatu, to inform the design and implementation of CIS-related interventions during the detailed design phase.

The second Readiness support proposal (GIZ) was focused on strengthening Vanuatu's NDA and developing a Strategic Framework for the MoCC / National Advisory Board for Climate Change (NAB). Outcomes included the establishment of standard operating procedures for project appraisal by the NAB's Project Screening Committee; new transparent and inclusive NOL processes; major outreach to the public on Vanuatu's GCF programs including forums, dialogues and public information at all levels, with a special focus on sectoral government agencies, the private sector and civil society; and the finalization of Vanuatu's first GCF Country Program, with an ambitious pipeline of adaptation, mitigation and readiness projects for the coming years. The VCCRP will build upon this Readiness activity by utilizing the newly established SOPs and strategic framework developed for the MoCC / NAB, including the NAB portal.[5] Additionally, the design and strategic direction of the VCCRP is informed by the findings and recommendations GCF Country Programme document produced under this proposal.

The third Readiness support proposal (GGGI and NGEF) was focused on development of a national financial vehicle to mobilise significant pools of financial resources to promote small-scale investments in renewable energy and energy efficiency technologies in support of the NSDP, National Energy Road Map and the NDC. The National Green Energy Fund (NGEF) was designed with four funding modalities – debt (loans) provided to intermediaries, project equity, risk sharing facility (first loss layer) for local banks, and small grants for public institutions. The readiness proposal was for the purposes of completing the feasibility studies with an aim to enable an informed decision by the GoV regarding the NGEF strategy and

[5] NAB: www.nab.vu

implementation priorities. The VCCRP will work with the newly established NGEF Unit that was created through this Readiness proposal, in addition to the Department of Energy and DoCC, with regard to identifying appropriate RE technologies relevant to VCCRP Output 1.2 (Climate-resilient agriculture for food security and livelihood development) and Output 1.4 (Climate-resilient food value chains established to support food security and livelihoods).

The fourth Readiness support proposal (GGGI and private sector) is focused on institutional strengthening and capacity building at the Vanuatu Chamber of Commerce and Industry (VCCI), with a focus on business resilience trainings for rural SMEs in agriculture and tourism, increasing access to climate finance and technical assistance through the creation of a private-sector project preparation unit, and developing a pipeline of Public Private Partnership climate change project concept notes aimed at submission to the GCF. The VCCRP will build upon these Readiness activities by working collaboratively with the team at the VCCI for engagement with private sector stakeholders in-country, including during the detailed design phase of the full project proposal.

The fifth Readiness support proposal (GGGI and DAE accreditation) is focused supporting the Ministry of Finance and Economic Management (MFEM) to become accredited to the GCF with the MoCC as a cooperating Executing Entity. Readiness funding will further support the identification, design and development of an Enhanced Direct Access (EDA) funding proposal to the GCF as securing direct access is a policy priority for climate finance and this project will allow the government to directly and actively utilize the NDA process put in place by the first Readiness activities. The VCCRP will work with the GGGI DAE accreditation team at MoCC / NAB to ensure project activities related to local CCA governance systems (Output 3.1) and local-provincial-national linkages (Output 3.2) support the national CC & DRR governance aims outlined in this Readiness activity. Should the government decide to establish new policies and procedures in anticipation of pursuing DAE accreditation, the VCCRP team will adhere accordingly. Once DAE accreditation is secured, the project will support the government by helping channel climate funding to the subnational level. By enhancing provincial capacity to effectively identify challenges and allocate resources, the VCCRP will help mitigate potential blockages and constraints to effective spending of adaptation resources.

The draft GCF Readiness proposal – Enhancing Adaptation Actions through the National Adaptation Plan of Vanuatu – is aimed at developing the country's National Adaptation Plan (NAP) to coordinate and align all relevant efforts on adaptation in the country and provide for a more coherent, efficient and sustainable structure for adaptation, transcending above and beyond the usual project cycle. All activities are designed to be gender-responsive and socially-inclusive, with a strong monitoring framework to facilitate the adaptive management of the NAP process. The VCCRP will undertake detailed participatory multi-stakeholder consultations and assessments (building on existing evidence) in lieu of an already established NAP. These detailed, community-level adaptation consultations will, among other things, outline specific climate-related vulnerabilities that need to be addressed in the short term to ensure sustainable development processes are not continually disrupted (drawing from climate science and local observations) as well as determine the key, non-climate factors that place barriers in the way of effective adaptation and determine how these can be addressed (e.g. through project activities or via other mechanisms). These analyses will feed into Outcome 2 of the NAP (climate change impact and adaptation information identified, analysed and prioritised).

The NAP process is primarily focused on national structures and capacities. Where the NAP is producing results that are of relevance to the project under development, these results will be used in the project; and inversely the project will engage in the NAP process to inform the

NAP of lessons learned. Depending on the implementation timeframes of both activities, this tentatively relates specifically to the following:

- Sub-outcome 2.1: Downscaled climate projections and vulnerability assessments: This will inform the activities that the project will develop under Component 2.
- Sub-outcome 2.2: Review and prioritization of adaptation strategies: The project will share lessons learned with the NAP to inform the review.
- Sub-outcome 4.1: Adaptation finance and funding strategy: The project will share lessons with the NAP to inform the strategy development.
- Sub-outcome 5.1: Knowledge sharing and awareness raising: The project will contribute to the NAB Portal.

It is anticipated that the Government of Vanuatu will submit at least two new Readiness proposals in 2021/22 focused on 'phase two' continuations of existing Readiness investments concluding this year. GGGI is currently developing Readiness funding proposals to continue the 'Mobilising Vanuatu's Private Sector towards climate change action' project, as well as the 'Enhancing Vanuatu's ability to seek accreditation and direct access to the GCF' project aimed at supporting Vanuatu's Ministry of Finance and Economic Management (MFEM) with accreditation as a Delivery Partner and national DAE. The VCCRP will ensure alignment and complementarity with these 'phase two' proposals accordingly.

### 3.4.3. Alignment with other projects

SPC and the Vanuatu Department of Energy are in the process of developing a proposal to scale up the *National Green Energy Fund* (NGEF), building from a GCF Readiness project. The VCCRP will work with the newly established NGEF Unit that was created through this Readiness proposal, in addition to the Department of Energy and DoCC, with regard to deploying appropriate renewable energy technologies under Output 1.2 (Climate-resilient agriculture for food security and livelihood development) and Output 1.4 (Climate-resilient food value chains established to support food security and livelihoods). A key point of coordination and collaboration between the projects will be VCCRP helping to develop a pipeline of demand for NGEF products through the provision of solar appliances to producer groups at community level and support to develop into MSMEs where possible. NGEF will be able to build from this base to provide further equipment as producer groups scale up to more formal enterprises.

The GEF-funded *Vanuatu Coastal Adaptation Project (Phase 1)* was completed in 2019 and Phase 2 (VCAP-2) aims to improve the resilience of vulnerable areas and communities to the impacts of climate change through the conservation of biodiversity and natural ecosystems. Applying an integrated ridge to reef approach, the project will focus on supporting management that improves food production, livelihoods, biodiversity conservation and reduces land degradation under climate change. All 12 VCAP-2 project sites are in rural vulnerable communities within the scope of VCCRP, and therefore there are synergies which will be enhanced through a collaborative and co-financing approach which are being proposed as part of this project. SCA and UNDP have collaborated on site selection to ensure no overlap of targeted communities. The two projects will cooperate closely during implementation to ensure complementarity of activities at the local level, sharing of lessons and outcomes, and ensuring that national and provincial level work under each project is well coordinated and mutually reinforcing.

The GEF-funded *Expanding Conservation Areas Reach and Effectiveness (ECARE)* project is proposed to start in early 2022 and will build on the recent accomplishments of the Government of Vanuatu around protected area conservation including the Vanuatu National

Ocean Policy and the National Biodiversity Strategy and Action Plan approved in 2017 and 2018 respectively. Outcomes of the project will directly contribute to better community wellbeing through (among other actions): a reinforced link between protected areas, conservation, adaptation to climate change, and disaster risk reduction; improved effectiveness of limited existing resources for the development of capacities at government levels; and better socio-economic and territorial resilience of communities that rely on natural resources. Importantly, the project recognises that conservation, especially with the involvement of women, have proven to be instrumental in improving food security and achieving health outcomes beyond many other environmental benefits (risk reduction, adaptation to climate change, etc) and will employ activities to achieve this.

*The Pacific Ecosystems-based Adaptation to Climate Change (PEBACC)* project was a five-year project that ended in 2020 and planning for Phase 2 is underway. The project explored and promoted ecosystem-based adaptation options for adapting to climate change in Vanuatu and two other Melanesian countries. The project was implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP) in partnership with the Government of Vanuatu. The overall outcome of the project is the integration of ecosystem-based adaptation into development and natural resource management policy and planning processes. Key achievements include community management plans and monitoring at specific sites using the Community Marine Monitoring Toolkit and trained Community Champions as part of the national network (Johnson et al. 2020). The project provides replicable models for other locations in Vanuatu and mechanisms/tools to scale up that support community-based resilience and adaptation.

The aim of the *Restoration of Ecosystem Services and Adaptation to Climate Change (RESCCUE)* project was to support adaptation to climate change through integrated coastal management, particularly focusing on economic analysis and economic and financial mechanisms. It worked at a pilot site level to strengthen integrated coastal zone management, strengthen the use of economic analysis for integrated coastal management; ensure economic and financial sustainability of integrated coastal management; and facilitate learning, dissemination and replication of experiences gained from pilot sites. In Vanuatu, activities implemented were primarily located in North Efate, but some activities were undertaken at the national level. RESCCUE's achievements and outputs include Community Vulnerability and Adaptation Assessment for north Efate, a Climate Change Analysis for Vanuatu, a Community Marine Monitoring Toolkit and financial mechanisms for supporting communities to sustainably manage their natural resources in the face of climate change (Johnson et al. 2020). There is an opportunity to draw on the findings of RESCCUE as well as expand existing mechanisms/tools to replicate and scale up good practice. It is anticipated that the network of Community Champions identified and trained during the project are a key capacity that can be incorporated into the VCCRP project.

The Red Cross Society is leading a project – Building Resilient Communities in Vanuatu – targeting 10 communities in west Santo. The project aims to build community resilience through climate change adaptation and is focussing on how communities respond to disasters and climate issues that have impacted the lives of people. The activities being implemented may have synergies with the VCCRP and opportunities to collaborate in the West Santo Area Council.

The Institutional Strengthening for Pacific Island Countries to Adapt to Climate Change project aims to support Pacific Island countries readiness to access and manage climate change and disaster risk finance. The regional project is operating in eight Pacific nations including Vanuatu, with a goal to strengthen national institutional capacity to effectively plan, coordinate

and respond to the adverse impacts of climate change. This is being achieved through national climate change and disaster finance assessments which assist Pacific governments to identify key institutional priorities, such as establishing and strengthening existing national climate change and disaster risk mechanisms, targeted trainings, policy enhancement and promoting information knowledge management on CC & DRR. Elements of the capacity building in this project will provide some foundational knowledge and awareness to support delivery of the VCCRP.

The Melanesia Coastal and Marine Ecosystem Resilience to Climate Change Programme is currently in the design phase with IUCN and SPREP as AEs. It is proposed to be implemented in three Pacific countries – Vanuatu, Papua New Guinea and Solomon Islands – that have similar socio-economic, environmental, and development profiles but have unique political and policy environments. This multi-country programme is focused on building the resilience of Pacific island coastal and marine ecosystems as a key strategy for long-term and effective climate-resilient development. The programme will build on PEBACC work in Vanuatu to enhance integration of ecosystem-based approaches into climate adaptation policy and plans to provide funding support for ecosystem-based approaches to underpin climate adaptation investments.

The Australian Government through DFAT and the Australian Centre for International Agricultural Research is supporting a project titled “Strengthening and scaling community-based approaches to Pacific coastal fisheries management in support of the New Song – Phase III” (also known as Pathways). The objective of this project is to enhance food security, sustainability and human well-being achieved through improved governance and management of coastal fisheries; Increase capacity in research and management in national and sub-national agencies and in communities; and policy outcomes including improved sub-national and national law and policy, and integration of fish into rural development policy through whole-of-government approaches to nutrition outcomes. Pathways includes development of coastal management plans in partnership with communities at eight sites in Vanuatu. The project is working with communities to identify their key marine resource issues and develop ecosystem-based coastal management plans. Cooperation with the Pathways project can help ensure a universal approach that can be extended to many coastal communities and locations in Vanuatu to support sustainable coastal resource management throughout the country.

The VCCRP builds directly on the achievements and networks established through a range of current and previous climate change adaptation projects in Vanuatu, including Save the Children’s previous community-based adaptation and broader community development work, as well as by work undertaken by key government departments, often supported by development partners. Through previous community-based adaptation projects, there is a clear understanding of the key climate-related challenges facing rural Vanuatu communities across a variety of geographies and socio-economic contexts. In the development of the project concept, the design team has engaged closely with key government departments and drawn from existing participatory climate vulnerability and capacity assessment processes undertaken with communities, such as the Vanuatu Vulnerability Assessment Framework (a GCF Readiness project approved in 2017 with GIZ as delivery partner) and the Vanuatu Community Vulnerability and Adaptation Assessments undertaken by SCA with the Department of Climate Change.

### 3.4.4. Key sectors in the economy

Vanuatu’s food production is largely subsistence-based, with about 80% of the population living in rural areas and engaging in small-scale community agriculture. Coastal fisheries also

contribute significantly to food security, with the recent mini census (2016) recording increased fishing effort by rural communities. 60% of rural households engage in fishing since marine resources are a critically important source of protein for them (Bell et al. 2018). The agriculture, forestry and fishing sector, which made up 18.2% of real GDP in 2019, was projected to decline by 2.0% in 2020 due to damages caused by TC Harold (RBV 2020). Importantly, it provides a living for about two-thirds of the population (particularly for women) with small scale agriculture the major component of this (**Figure 6**). Vegetable crop production is undertaken by 88% of all households in Vanuatu and 97% of rural households. 74% of rural households rely upon agriculture for cash crop production. Fishing, offshore financial services, and tourism (with nearly 115,634 visitors in 2018 (VNSO 2018)), are other mainstays of the economy. The growing tourism sector, mainly around Port Vila, is the main foreign exchange earner. The ongoing COVID-19 situation has highlighted the fragility of a tourism-based economy, further underscoring the need for resilience building.

The high level of dependence on natural resources for subsistence and livelihoods, combined with the Vanuatu's narrow economic base, make livelihoods, food security and the cash economy particularly vulnerable to disruption by natural hazards and climate change.

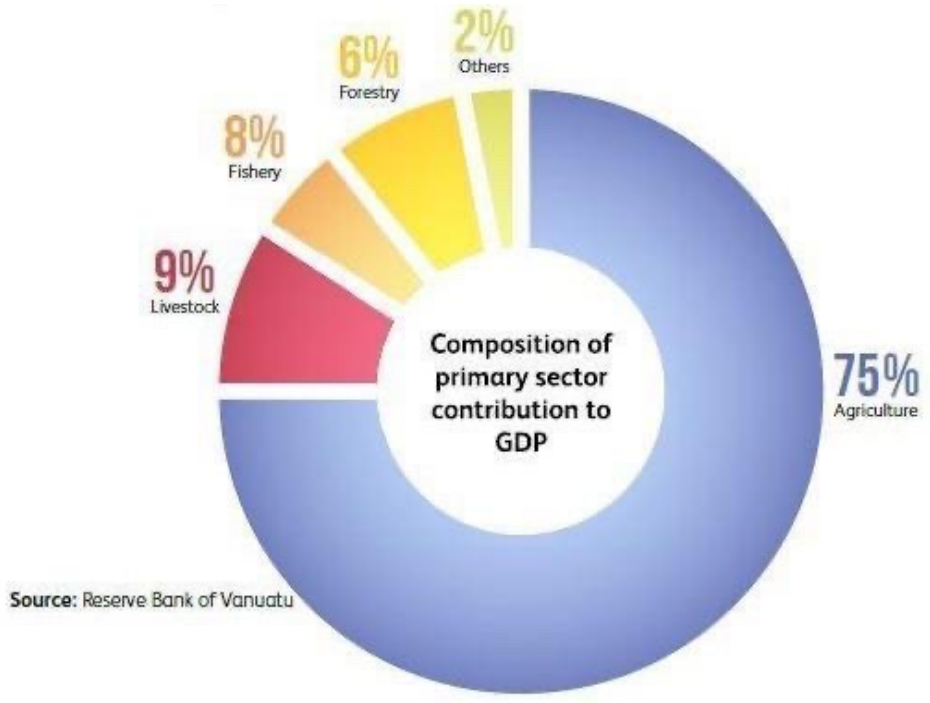



***Figure 6.*** *Composition of Vanuatu primary industries and their contribution to GDP*

### 3.4.5. Agriculture

Vanuatu has considerable land-based resources, fertile soils, and extensive (although declining) forests.

Vanuatu's agriculture sector is divided into three sub-sectors: (1) subsistence that accounts for more than 75% of production, (2) growing semi-commercial farms contributing 15% of production, and (3) commercial farming based on a limited range of traditional cash crops (with the potential to expand into emerging markets) that contributes 10% of total production in the sector.

Agriculture is one of the most productive sectors, providing over 18% of the country's GDP (RBV 2020). Copra and cocoa are the main cash crops produced, with subsistence focused on growing taro and yams (World Bank 2011).

The subsistence sub-sector is predominantly centred around root crops (taro, yam, cassava and sweet potato) for consumption and cultural purposes and characterised by a total reliance on rainfall (rather than irrigation) and basic tools. As a sub-sector, subsistence agriculture is labour intensive and traditionally utilises completely organic farming practices. Organic and agroecological agriculture (farming based on ecological principles that uses a minimum of chemical inputs) have been shown to increase the resilience of farms to large storm events and reduce recovery time, increasing local food security (for example Holt-Gimenez, 2002). In Vanuatu, traditional farming practices have shifted in recent years as a result of external cultural influences and increased populations.

Each household in rural communities tends to have a small agricultural plot. Traditionally agricultural plots are cleared with slash and burn techniques within walking distance of the village. After farming a plot for a certain number of seasons, a plot would be left to fallow for approximately 20 years and return to secondary forest. This length of time allowed soils to recover fertility, ensuring productivity and limiting problems with crop diseases and pests. As human populations have increased, the available area for farming has decreased, resulting in fallow times dropping to approximately 4-5 years. The reduced fallow time has compromised soil fertility, reducing yields and increasing the vulnerability of crops to disease and pests, compounding the vulnerability to current and projected climate trends.

Villages currently experience food-security for 5-12 months of the year. Community members attribute current food insecurity to repeated use of agricultural plots (shortened fallow times), droughts and pests. Communities report that 4-12 months are typically required to recover subsistence-agriculture after a tropical cyclone. The risks of food-insecurity are further exacerbated by the increased demand for food resulting from the same rapid increase in population and increased reliance on imported and purchased (rather than locally produced) foodstuffs, which further poses a challenge for the traditionally subsistence-based (versus cash) economies of rural Vanuatu. Current food-insecurity, accompanied by negative impacts on human health and nutrition, are likely to intensify in the current climate context.

Semi-commercial agricultural activities primarily focus on food crops and are concentrated near urban centres with high population growth rates, the development of tourism markets, and high rates of urban unemployment. Although 20% of people reside in urban areas, they still rely on agricultural products from market centres or trading for their daily source of nutrients. Recently there has been an expansion of green leafy vegetables in diets complementing the popular open pollinated local island cabbage, including varieties of hybrid Chinese cabbages, tomatoes, capsicum and eggplant. Spice and herb cultivation in this sub-sector is a new but promising industry being led by female farmers, with potential for engagement by other groups.

The commercial sub-sector is dominated by four main cash crops: 24% of households are engaged in cocoa production, 50% in kava, 2% in coffee and 69% in coconut.

Agricultural expansion is occurring throughout Vanuatu for a number of reasons. Firstly, the population is increasing at a rapid rate (2.3% per annum) and increased food supply is required to meet the growing demand. Secondly, there are increasing reports of diseases and pests in subsistence crops with a spoilage factor of between 10-50% reported in some areas (There is limited research available at present to demonstrate if there is any link between this and climate change.) Thirdly, there is increasing engagement in the cash economy.

The 2016 population census noted two emerging cash crops – pepper and vanilla – with 1% and 2% of households engaged, respectively (GoV 2016). While there has been a slight increase in the number of households growing coffee, the census also registered a significant drop in the number of households planting kava, coconut and cocoa. Such a decline may be related to fluctuations in world commodity prices, emerging markets for novel crops, loss of basic farming skills / knowledge or conversion of prime agricultural land near urban areas into residential properties to cater for rapidly expanding populations (GoV 2014).

It is difficult to estimate the total area used for agricultural production due to the dispersed nature of subsistence gardens. Currently, there are few if any fertilizers and pesticides used in Vanuatu although this may change with increasing pressure on the land and reported increases in agricultural pests and diseases. Maintaining practices which support soil health while not using chemicals supports resilience of existing farm production system (i.e., healthy soil microbiome which helps defends crops against pests/fungi related to climate impacts).

There are increasing levels of nutrients being detected in rivers and streams in the coastal zone, thought to be due to cattle grazing in upstream areas such as coconut plantations on islands like Santo. At present, there is little or no control over cattle grazing in watersheds and rivers although there are guidelines on riparian vegetation, although this does not seem to be enforced. As a result, there are heavy nutrient loads in some rivers in South Santo as evidenced by large algal mats on the river base. This level of water pollution has the potential to lead to eutrophication of these rivers resulting in significant human health issues. However, the highest concentrations of dissolved nutrients and suspended sediments in Vanuatu coastal waters have been measured adjacent or near the urban drains that enter the coastal areas along the Port Vila seafront, highlighting another issue of increasing urbanisation in Vanuatu (Devlin et al. 2020).

Volcanic ash is a concern for agricultural production in some communities as it can smother crops and pollute essential water supplies. By strengthening agricultural systems to climate change, the risks from ash to crops and water supplies can be addressed as a co-benefit. That is, agricultural production that incorporates practices to minimise the impacts of climate variability and change on crops and water supplies, can also provide protection to production from the impacts of volcanic ash.

### 3.4.6. Fisheries

Vanuatu's fisheries sector is an important provider of employment, food and income. Fisheries resources are exploited for subsistence, artisanal (small-scale) income and commercial purposes. As is the case in many Pacific Island nations, coastal fisheries resources provide the principal source of animal protein for communities, especially those living in the coastal zone and remote islands. In Vanuatu, most rural communities engage in fishing with 60% of the catch for subsistence consumption, and 60% of dietary protein coming from fish and shellfish (Bell et al. 2018). Most fishing within reefs and lagoons is for subsistence or small-scale artisanal purposes. Reef and lagoon fish, as well as non-finfish marine animals (invertebrates) such as lobsters, are becoming increasingly important at the artisanal level.

Vanuatu's fisheries resources are divided into three main groups: 1) various species of pelagic fish, primarily tuna sold commercially, 2) deep-water bottom fish, principally snappers collectively referred to as “poulet fish”, and some bycatch species, such as grouper, and 3) reef fish that inhabit the shallow coastal waters inside or adjacent to reefs. Current fishing activities in Vanuatu can be classified into the following broad categories (Amos 2007):

- Subsistence: nearshore reef fishing activities that target reef associated and lagoon fish, shellfish and small pelagic fish.

- Artisanal: small-scale commercial fishing activities that principally target shallow reef species, deep-water bottom snapper (poulet) species, and FAD associated pelagic fish using trolling and long-lining techniques. Also includes collection of sessile shallow reef-associated organisms such as trochus, green snails, and *beche-de-mer* (dried sea cucumber).
- Big game/sportfishing: commercial charter boat sport fishing for tourists. This fishing activity targets billfish, tuna and large coastal pelagic fish species. Some vertical drop-lining for deep-water bottom fish is also practiced.
- Locally based long-liners: pelagic longline fishing for albacore and yellowfin tuna, plus some bottom set long-lining for snapper and groupers.
- Foreign access industrial fishing: which is primarily long-lining for tuna, but also some multilateral purse-seining.

Marine fisheries have various levels of exploitation around the country. Reefs are overfished in populated areas, notably in and around the island of Efate, and increasingly are reported as overfished in the outer islands, even in remote areas. The deep-water snapper resource has the potential for some further exploitation but there are limited data on stock status. Improvements in catching, handling and marketing systems and commercialisation of the domestic fishing industry are ongoing, particularly to meet international standards; however, overall Vanuatu's fisheries are likely to be insufficient to supply a larger proportion of the protein needs of a rapidly growing population. Importantly, sustainable resource harvesting of nearshore reef fisheries and small-scale artisanal fisheries requires further resourcing and focus.

Communities in Vanuatu have managed and protected their coastal marine resources for hundreds of years using traditional management practices. Governments and NGOs recognise the need to preserve traditional community-based approaches, however, rapidly increasing human populations along with climate change, accelerating coastal development and advances in fishing technology and techniques, means that traditional approaches now need to be complemented with other management approaches. Under contemporary scenarios of competitive resource use, market integration, and access to new technologies, customary practices alone may be inadequate to balance competing objectives, such as maximizing profits and sustainable fisheries management (Jupiter et al. 2014).

While there are limited data on coastal habitat condition or subsistence fish catches for most locations in Vanuatu, trends at sites where monitoring data are available indicate that coastal reef fisheries are depleted due to overfishing (Welch et al. 2016). Communities also report issues relating to coastal fish catches declining, taking longer to catch fish (e.g., nets need to be set for longer), sedimentation resulting from upland erosion and damage to supporting reef habitats due to coral predation, cyclone damage and thermal coral bleaching. The condition of coastal habitats that support fisheries, such as coral reefs, seagrass and mangroves, remain largely unknown, as does subsistence fish catches and are a significant issue for food security.

### 3.4.7. Food processing, marketing and exporting

As noted above, the majority of agriculture in Vanuatu is focused on food production for household and community level subsistence. At some times of year, however, households and communities have surplus produce that can potentially be marketed to supplement incomes or processed to support food security throughout the year. A FAO (2013) study found that dehydrating produce (particularly root crops) is a highly viable strategy to support year-round food security in the face of climate variability and extremes, and provides a post-disaster

food resource. At the time of the study, FAO noted that food dehydrating and storage was not practiced in Vanuatu, but that it had a high potential for implementation nationwide. Since then, several SMEs have engaged in food processing (particularly dehydrating produce) for domestic markets and, to a more limited extent, export, including as a source of food in post-disaster contexts. There remains no nationally coordinated approach to food preservation, distribution channels remain complex and unreliable and the dispersed rural agrarian population, composed of many micro/subsistence producers increases the complexity of getting goods to market and achieving economies of scale.

Despite this, Vanuatu has many comparative advantages in the agriculture sector that, if capitalised on, could generate a sustainable source of revenue for rural farming communities, with much of the country suitable for engaging in food processing (particularly fish and vegetables) for delivery to domestic and international markets (**Figure 7**, GoV 2018b).

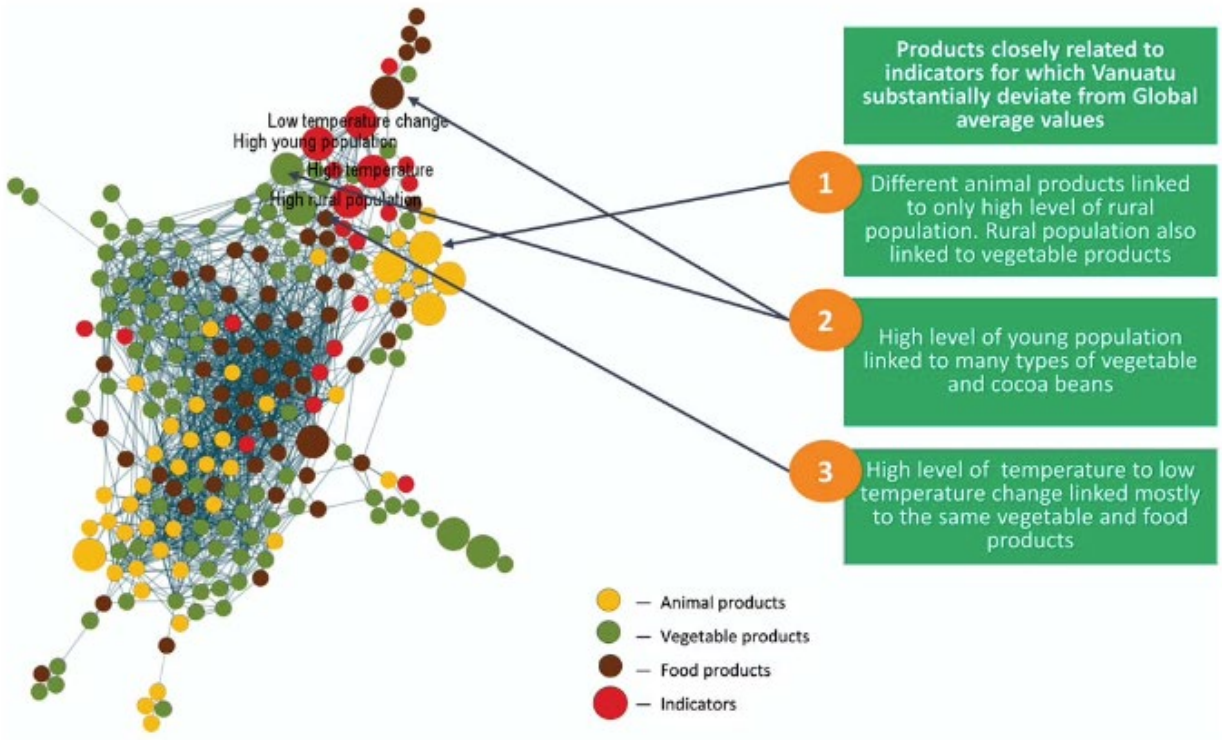



***Figure 7.*** *Linking geographic variables with the product space for Vanuatu (GoV 2018b)*

Analysis from the Vanuatu Department of Industry highlights that the country has potential comparative advantages in processed fish (i.e., dried, smoked, frozen) and processed vegetables (particularly frozen) (GoV 2018b). The VCCRP will work with local producers in targeted communities to help diversify their livelihoods utilising surplus produce from farms and fisheries to help fill these potential niche markets. Ensuring these potential value-add commodities are resilient in the face of a changing climate presents an additional challenge, which the VCCRP is well designed to address.

Vanuatu's updated GCF Country Programme (GoV 2021b) includes a list of key barriers for private sector engagement in climate action, including the potential to generate increased revenue from agricultural commodities in the context of climate change. Key barriers identified include:

- Lack of trust between the public, private and CSO sectors
- Limited business experience and entrepreneurial skills to convert development and climate challenges into inclusive business opportunities
- Small and scattered market limiting the economies of scale
- Low business/management literacy and climate entrepreneurial spirit
- Lack of incentive to protect and conserve the ecosystem goods and services so many communities rely on.

The key opportunity highlighted to address these gaps is:

> *There is a need to leverage private sector resources to partake and invest in gender responsive adaptation and mitigation projects through inclusive value chain and market based approaches so that value chain actors (including women, youth and disadvantaged groups and micro, small and medium enterprises) could be trained, empowered, rewarded and incentivised to protect and improve their productive assets (land, soil, water, forest, rivers, marine) whilst generating ecosystem services for the local community and reduce local pollutions and carbon emissions* (GoV 2021b).

The VCCRP will respond directly to this identified opportunity by supporting targeted communities to engage in food processing for both food security and (with surpluses) for markets. Given the project's focus on remote and rural communities, the scope for engaging in the export market is limited (particularly related to the high cost of shipping and inconsistency of routes and timing, as highlighted in the Agriculture Sector Policy). There is, however, scope for rural and remote producers to provide processed produce to urban centres, particularly via producer group engagement with private sector entities to reach economies of scale.

The project will also address several of the key constraints noted in Vanuatu's GCF Country programme, as outlined in **Table 4**.

***Table 4.*** *Barriers to private sector engagement*

| Barrier to private sector engagement | VCCRP support |
|---|---|
| Lack of trust between the public, private and CSO sectors | Supporting targeted farmers to develop producer groups to increase negotiating power and facilitating engagement with private sector entities (via the VCCI) will help build trust |
| Small and scattered market limiting the economies of scale | Support for farmers to engage in food preservation will help reduce barriers related to transport (i.e., spoilage) and development of producer groups will help develop economies of scale and increase private sector interest |
| Low business/management literacy and climate entrepreneurial spirit | Development of producer groups and engagement with VCCI will help increase local level business literacy |

| | |
|---|---|
| Lack of incentive to protect and conserve the ecosystem goods and services so many communities rely on | Increased community understanding of climate change impacts and the importance of protecting local ecosystems, along with project support for specific nature-based solutions and climate-resilient farming techniques, will help ensure more consistent productivity and, therefore, more reliable availability of goods for market |

Vanuatu's fourth GCF readiness project, Mobilizing the Vanuatu Private Sector Towards Climate Change Action, delivered by GGGI, supported the enabling of private sector participation in pursuit of Vanuatu's long-term climate change and climate finance goals via building the institutional capacity of the Vanuatu Business Resilience Council, under the VCCI to increase engagement of the private sector in adaptation action. Building on the outcomes of this readiness project, the VCCRP will work with the VCCI and the Ministries of Agriculture and Trade to engage agriculture-related private sector entities to work with project-supported producer groups to enhance market access.

# 4. Vanuatu's climate and recent trends

Meteorological records for Vanuatu are maintained by the Vanuatu Meteorology and Geo-Hazards Department. There are however gaps in the historical data record as a result of ongoing challenges with digitising the paper record, the dearth of monitoring stations to capture current trends, and the general paucity of research into Vanuatu's climate. The historical climate data and trends presented here represent a comprehensive summary of the available data.

Vanuatu has a predominantly hot, humid, tropical climate, with year-round rainfall. There are two main seasons: a warm wet season, influenced by the northwest monsoon, between November and April; and a cool drier season, influenced by southeast trade winds, from May to October (CSIRO & BoM 2015). Islands in southern Vanuatu experience greater seasonality than the rest of the country, with cooler temperatures and lower rainfall during the dry season, and lowest average temperatures of 19°C.

Superimposed on seasonal cycles and trends in climate is the El Niño Southern Oscillation (ENSO); a source of natural variability that modulates atmospheric and ocean climate from weeks to decades. ENSO is the principal source of inter-annual global climate variability and is centred in the tropical Pacific. ENSO fluctuates between two phases, El Niño and La Niña. During an El Niño year, Vanuatu is subject to drought conditions and cooler air and sea temperatures. While during a La Niña year, there is higher than normal rainfall and warmer air and sea temperatures (and therefore higher likelihood of tropical cyclones) (CSIRO & BoM, 2015). The last significant El Niño event in Vanuatu was in 2015-2016 when drought conditions impacted crops and water security. Further details on future climate trends are detailed in **Section 5.1**.

Vanuatu's climate varies considerably from year to year due to ENSO and other drivers, with extreme weather and climate variability within and between years, including tropical cyclones, floods and storm surges (often associated with tropical cyclones), and droughts. Some islands are also exposed to geological hazards—earthquakes, tsunami and landslides.

## 4.1. Air and sea surface temperature

Across Vanuatu the annual average air temperatures are between 23.5–27.5°C. Changes in air temperature from season to season are strongly linked to changes in the surrounding sea surface temperature. The country has two distinct seasons – a warm wet season from November to April and a cooler dry season from May to October (**Figure 8**).

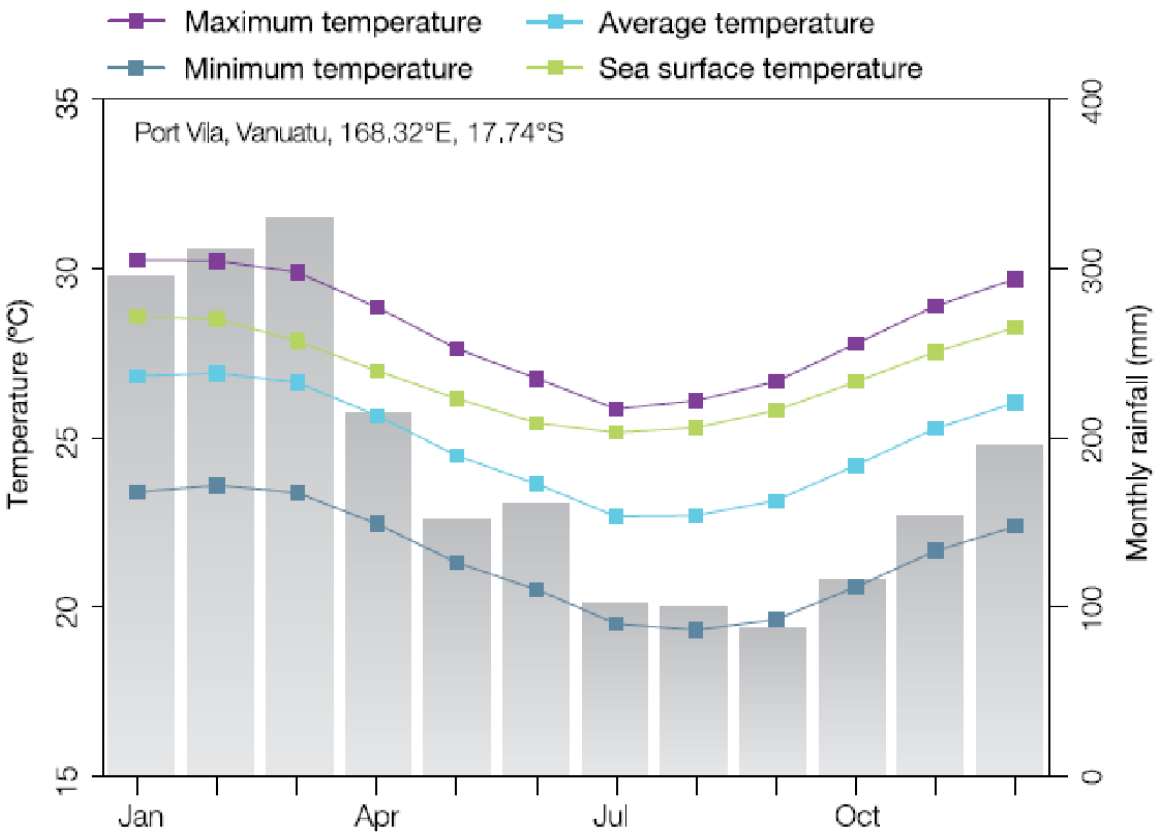



***Figure 8.*** *Seasonal rainfall and air temperature at Port Vila (Source: CSIRO & BoM 2015)*

Air temperatures for Vanuatu have been measured at Bauerfield Airport in Port Vila, where annual and seasonal mean, maximum and minimum air temperatures have increased since 1948 (**Figure 9**). Seasonal maximum and minimum air temperatures at Aneityum, the southernmost inhabit island of Vanuatu, have also increased over the same period (**Figure 9**). Annual and seasonal mean air temperatures at Bauerfield Airport have increased at a rate of 0.14°C per decade. These temperature increases are consistent with the global pattern of warming (CSIRO & BoM, 2015).

The observed warming trend is clear and ongoing, and, relative to an early baseline of 1850-1900[6], Vanuatu has experienced around +0.3 °C warming compared to the 1986-2005 period. The warming that has occurred (and is projected to continue) is at a lower rate than the global

[6] This baseline is the default used since the IPCC Fifth Assessment Report, as it "*represents the earliest period of sufficiently globally complete observations to estimate global surface temperature and, consistent with AR5 and SR1.5, is used as an approximation for pre-industrial conditions*" (IPCC 2021).

average (+2 °C of average global warming corresponds to +1.3 to +1.9 °C in Vanuatu, due to the uneven impacts of global warming).

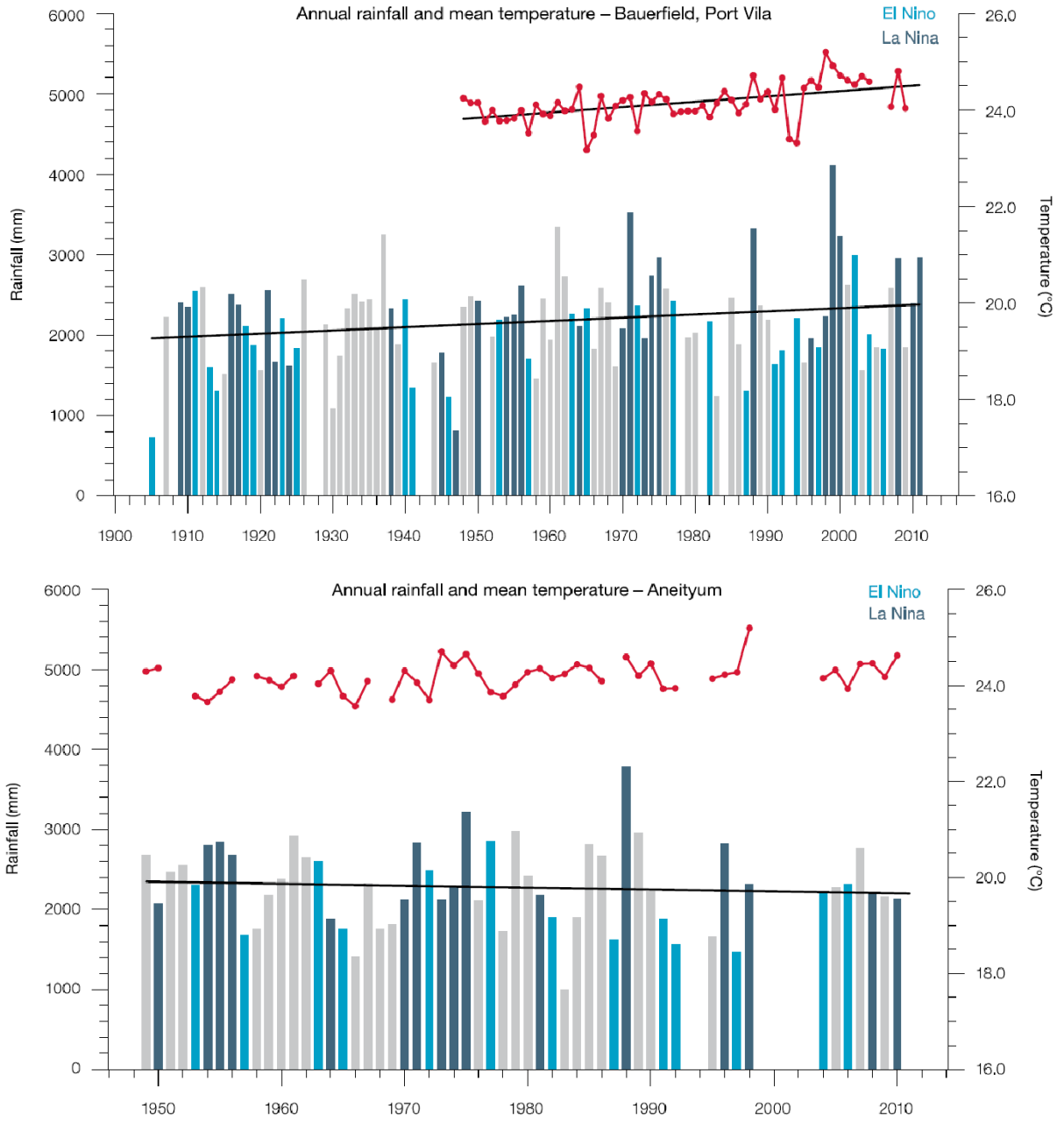



***Figure 9.*** *Annual average air temperature (red dots and line) and total rainfall (bars) at Bauerfield Airport, Port Vila (top) and Aneityum (bottom). Light blue, dark blue and grey bars indicate El Niño, La Niña and neutral years respectively. Missing bars indicate that data is not available. The solid black lines show the long-term trends (CSIRO & BoM 2015)*

Sea surface temperature (SST) also varies seasonally and has been observed to be increasing over recent decades, with a strong link between SST and air temperature trends on the small islands. SST is an important factor that can influence the location of primary productivity zones and availability of food, composition of species, the migration of species, the severity of storms and cyclones, ocean salinity, and the overall health of marine ecosystems. Increase in SST has also been observed around Vanuatu with the rate of change

in annual average SST between 0.3 and 0.4 °C per decade (Maynard et al. 2018). There is little spatial variation in Vanuatu in the annual trend. This annual trend is consistent with the global average of 0.33 °C per decade (**Figure 10**).

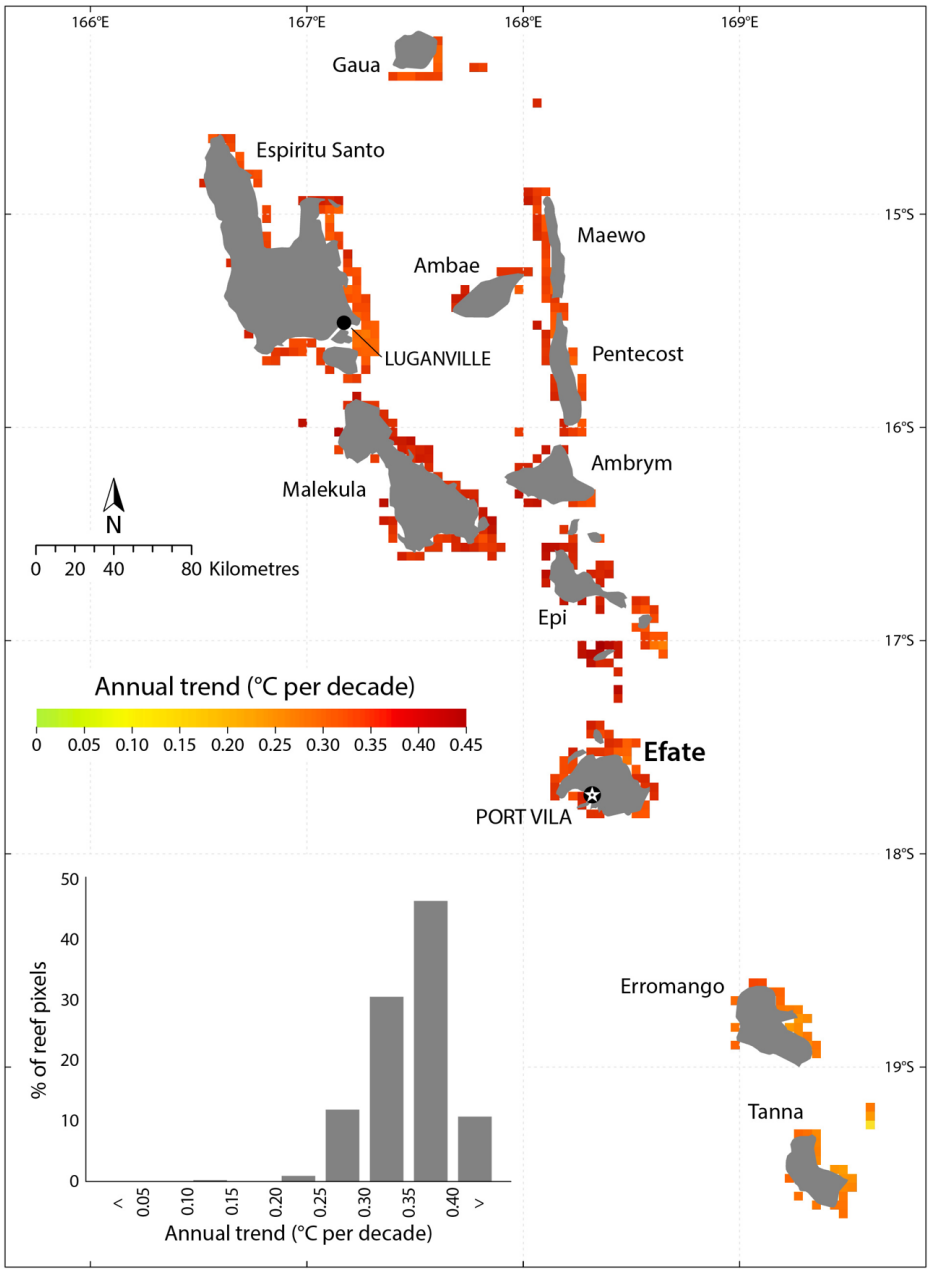



***Figure 10.*** *Annual SST trend for Vanuatu from 1985–2012 (Maynard et al. 2018)*

## 4.2. Rainfall

Rainfall in Vanuatu is driven by the South Pacific Convergence Zone, with a band of heavy rainfall caused by air rising over warm waters where winds converge, resulting in thunderstorm activity. It extends across the South Pacific Ocean from the Solomon Islands to east of the Cook Islands (**Figure 11**). During the wet season, the South Pacific Convergence Zone intensifies and moves further south, bringing higher rainfall to Vanuatu. Low pressure systems in the band of heavy rainfall often become tropical cyclones during the cyclone season (warmer months) (CSIRO & BoM 2015).

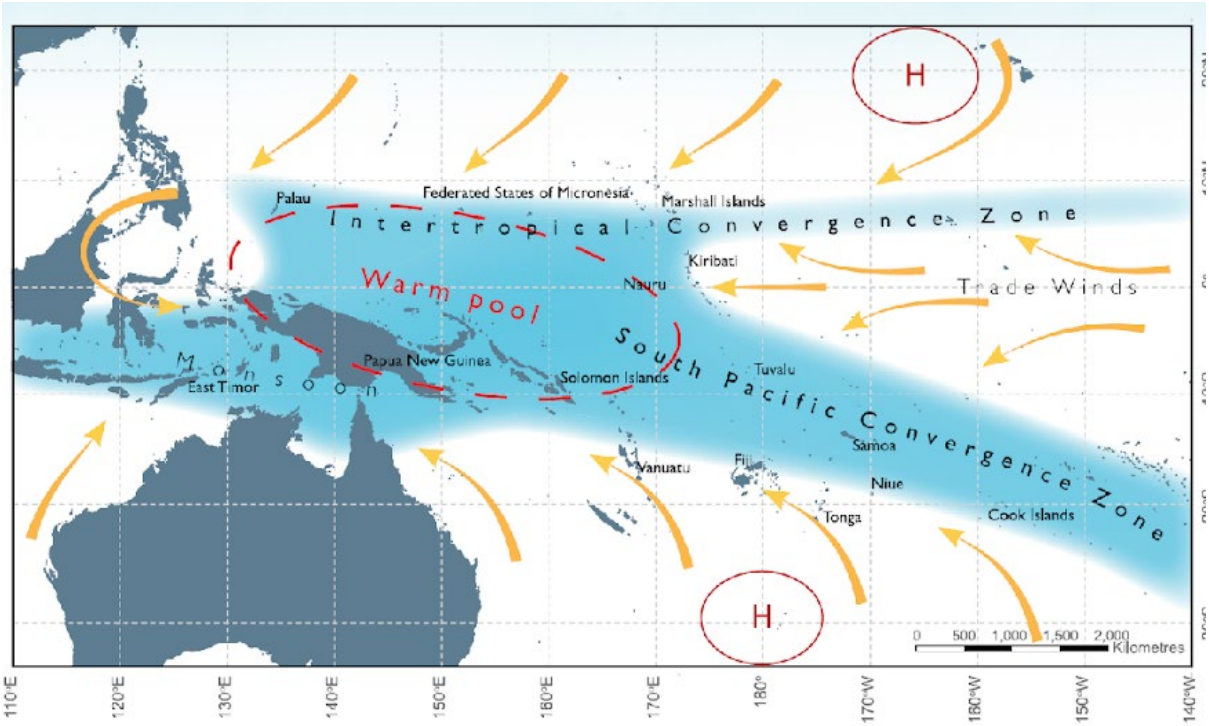



***Figure 11.*** *Average positions of the major climate features in November to April, including near surface winds (arrows), bands of rainfall convergence zones (blue shading), the West Pacific Warm Pool (red oval), and the positions of moving high pressure systems (H) (CSIRO & BoM 2015)*

Mountains also play a role in rainfall variation across some islands, and during the wet season, rainfall is particularly high on the windward (south-east) side of mountain ranges on bigger islands, and scarce on the leeward (north-west) sides. This trend is also apparent during the dry season.

There are no clear trends in seasonal or annual rainfall over Vanuatu since 1907 (see **Figure 9**). Over this period, there has been substantial variations in rainfall from year to year but little change in extreme daily rainfall or total rainfall (CSIRO & BoM 2015).

## 4.3. Tropical cyclones

Tropical cyclones (TC) most commonly affect Vanuatu during the warm wet season, between November and April. Over the 42-year period to 2010, 101 tropical cyclones developed or crossed into the Vanuatu Exclusive Economic Zone, or an average of 24 cyclones per decade (**Figure 12**). The number of cyclones varies from year to year, with none in some seasons but up to six in others. Over this period, cyclones occurred in El Niño, La Niña and neutral years (CSIRO & BoM 2015). In the recent past, Vanuatu has experienced two category 5 cyclones (TC Pam in 2015 and TC Harold in 2020) with estimated economic loss and damage of approximately 64% of GDP (approximately USD 450 million) for TC Pam (Ester 2015).

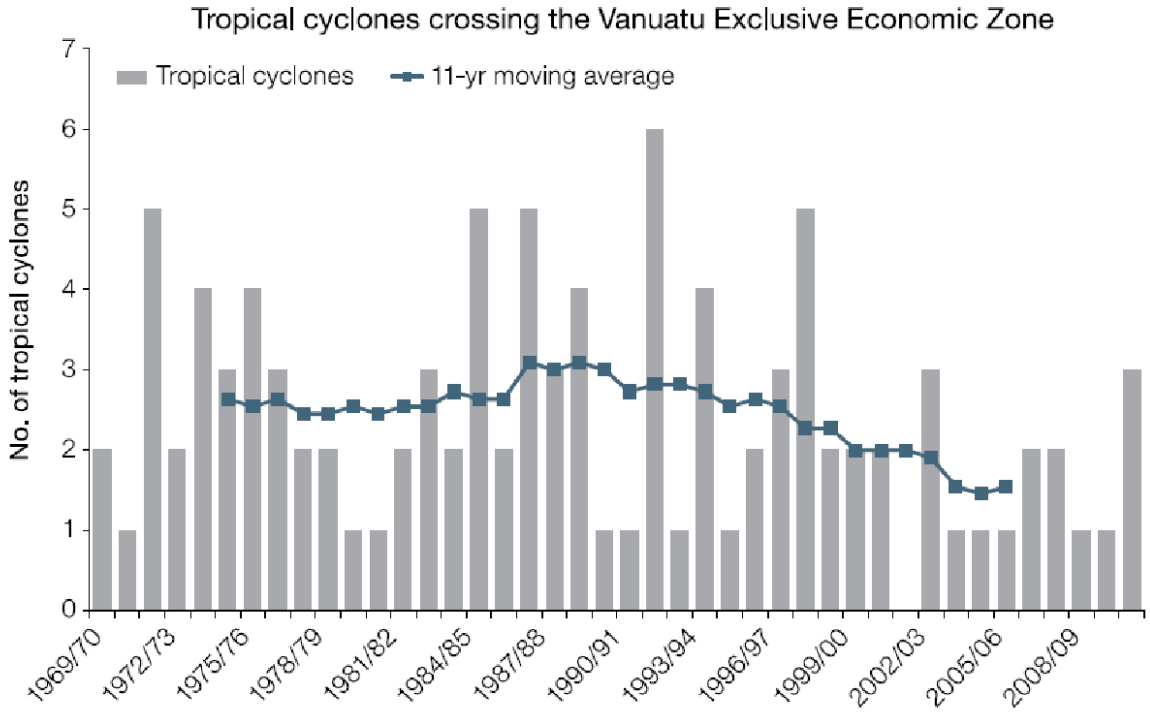



***Figure 12.*** *Number of tropical cyclones developing within or crossing the Vanuatu Exclusive Economic Zone per season; and 11-year average (blue line) (CSIRO & BoM 2015)*

## 4.4. Wind and waves

Wind and waves around Vanuatu do not vary significantly throughout the year, having constant wave heights and periods. Waves are influenced by the southern trade winds and movement of the South Pacific Convergence Zone. They display some variability from year to year with ENSO and the Southern Annual Mode. Waves come mainly from the south-east, consisting of trade wind generated waves and a component of swell propagated from storm events in the Southern Ocean. Wave heights are typically greater in the south at Aneityum than at Port Vila or in the north (**Figure 13**).

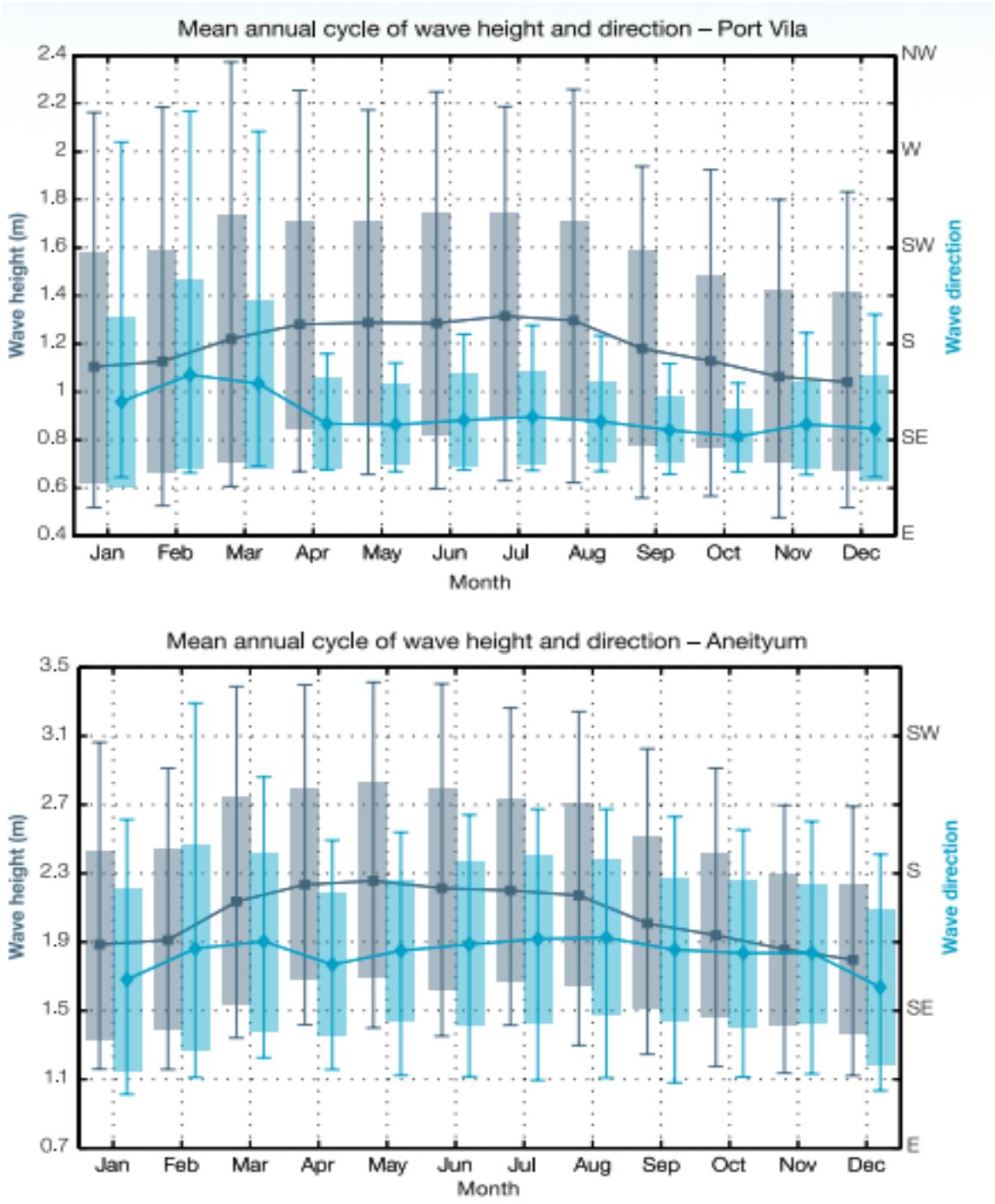



***Figure 13.*** *Annual cycle of wave height (grey) and wave direction (blue) at Port Vila (top) and Aneityum (bottom) based on data from 1979–2009. The shaded boxes represent one standard deviation around the monthly means, and the error bars indicate the 5–95% range, showing the year-to-year variability in wave climate. The direction from which the waves are travelling is shown (not the direction towards which they are travelling) (CSIRO & BoM 2015)*

# 5. Climate change projections and hazards

The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) of Working Group II (WGII) (IPCC 2014) outlined the concept of climate change vulnerability incorporated with the concept of risk of climate impacts. Consistent with this, the project incorporates the updated definitions and risk-based approach as per the *Risk Supplement to the Vulnerability Sourcebook - Guidance on how to apply the Vulnerability Sourcebook's approach with the new IPCC AR5 concept of climate risk* (2017). Of note, the vulnerability of a system is now broadly accepted to be one of three components contributing to risk (rather than the key output) that includes hazards and exposure. The combination of hazards, vulnerability and exposure defines the risk of potential consequences using this climate risk assessment framework (**Figure 14**). Inherent in climate vulnerability is sensitivity and adaptive capacity of species, ecosystems, people and industries.

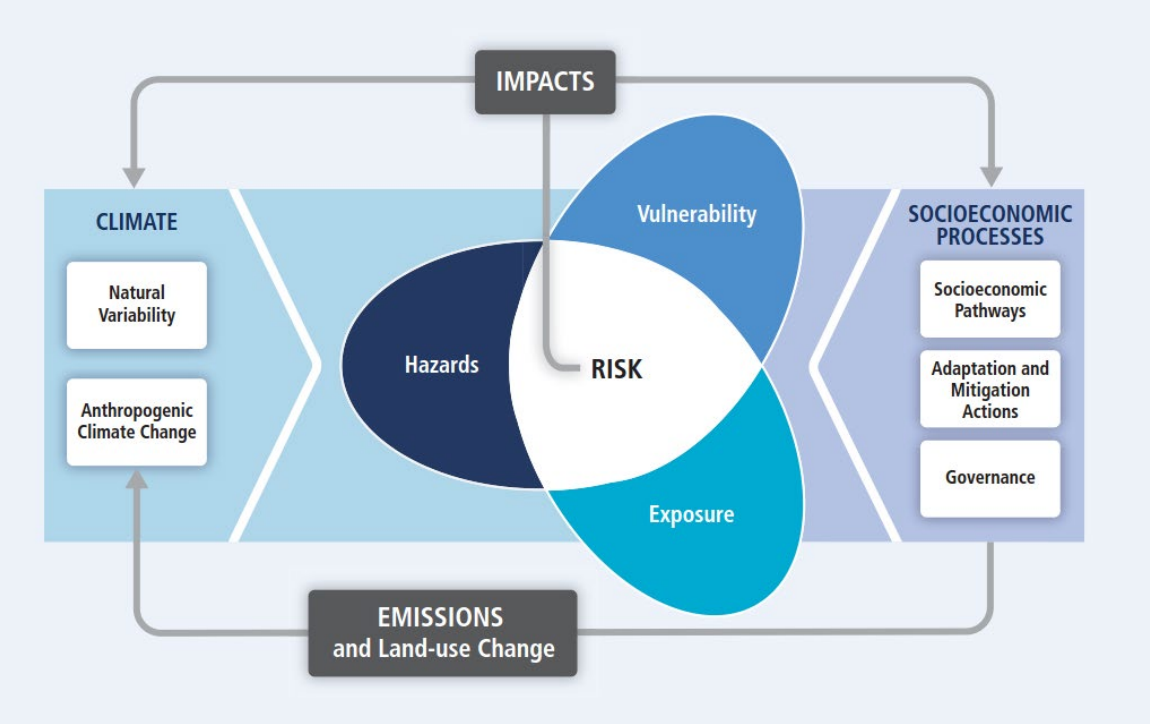



**Figure 14**. Climate risk framework to assess and identify adaptations *(Source: IPCC AR5)*

The VCCRP will address a number of key climate risks in Vanuatu, which are the specific, climate-related impacts on assets, people, ecosystems, and culture. This allows adaptation measures to be targeted at either decreasing the sensitivity or increasing adaptive capacity in the most cost-effective and sustainable manner to reduce the vulnerability for the greatest number of beneficiaries across the country.

Adaptation measures can also focus on reducing exposure to hazards, e.g., relocating agricultural lands to areas that are less drought or flood prone or constructing new dwellings and buildings away from flood-prone or coastal inundation areas. On a small island nation such as Vanuatu, these measures may be difficult to implement due to lack of available space inland, land tenure issues and availability of building materials.

Targeted adaptation actions have been selected based on viability, utility, and appropriateness for the population this project is intended to serve. While adaptation actions that address exposure have been considered in the design of this project, the targeted adaptation actions proposed predominantly focus on measures that minimise vulnerability and

enhance adaptive capacity. Acknowledging the significant contextual barriers noted earlier to delivering activities aimed at reducing exposure, many such interventions would also likely fall outside of SCA's level of ESS accreditation. Therefore, the VCCRP will focus on reducing vulnerability and enhancing adaptive capacity of community beneficiaries.

A hazard or climate driver represents a specific climatic event or direct physical change, which may be either an extreme event or a slow onset trend. Hazard not only refers to the climate signal, but also climate-related direct physical impacts, such as floods. The main climate hazards in Vanuatu include tropical cyclones with high winds and wave energy, heavy rainfall resulting in flooding, drought, rising sea levels threatening low-lying coastal communities, as well as SST increase and ocean acidification impacting highly valuable coastal ecosystems and resources (e.g., coral reefs, seagrass and fisheries). Pacific regional adaptation costs across all vulnerable sectors are estimated to be between USD 158 – 775 million per annum until 2050 to prepare for best to worst case future scenarios (with USD 447 million under business-as-usual) (ADB 2013).

Exposure interacts with hazards as external pressures or drivers of change on people, species, ecosystems and sectors. As per the IPCC AR5 (2014) definitions (see box), determining climate risks for Vanuatu will consider climate and non-climate hazards, as well as the population distribution and density across the inhabited islands.

| | |
|---|---|
| **Hazard** | The potential occurrence of a natural or human-induced physical event or trend or physical impact that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems, and environmental resources. |
| **Exposure** | The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected. |

*Source: IPCC 2014*

## 5.1. Climate change projections

There are significant challenges in generating climate change projections for Vanuatu, largely due to a combination of: gaps in the historical record, which reduce the reliability of hindcasting; significant climate variability within and between years, which increases the complexity of identifying the climate change signal; and a lack of funding available to dedicate to generating up-to-date projections. Despite these challenges, Australia's CSIRO and Bureau of Meteorology, supported by the Australian government, developed a series of high-quality projections for Vanuatu in 2014-15 under the auspices of the Pacific Climate Change Science Program (PCCSP) and its successor, the Pacific-Australia Climate Change Science and Adaptation Planning program (PACCSAP). The PCCSP and PACCSAP projections are the most detailed ever developed in the region, but fall well behind those available in other regions.

The PCCSP and PACCSAP modelling is based on climate model simulations following a set of emissions scenarios that are consistent with certain socio-economic assumptions of how the future may evolve. There are many different global climate models and they each represent the climate slightly differently. An evaluation of 26 global models found that 24 best represent the climate in the Vanuatu region of the western tropical Pacific. These 24 models have been used to develop climate projections for Vanuatu.

In the PCCSP and PACCSAP modelling the CMIP5 climate models are applied to four Representative Concentration Pathways (RCP): very low emissions (RCP2.6), low emissions

(RCP4.5), medium emissions (RCP6.0) and very high emissions (RCP8.5). For Vanuatu all four RCPs have been analysed with a horizon to 2030, 2050, 2070 and 2090, relative to a 20-year baseline centred on 1995 (**Figure 15**). Since individual models give different results, the projections are presented as a range of values. These scenarios cover a broad range of possibilities: the very low emissions scenario (RCP2.6) shows the likely outcome if global emissions are significantly reduced, the very high emissions scenario (RCP8.5) shows the impact of a pathway with no concrete action on reducing emissions, the medium scenario (RCP6.0) which is closest to the current emissions trajectory, and a low scenario (RCP4.5) which is achievable if all current pledges are met and ambitions continue to increase.

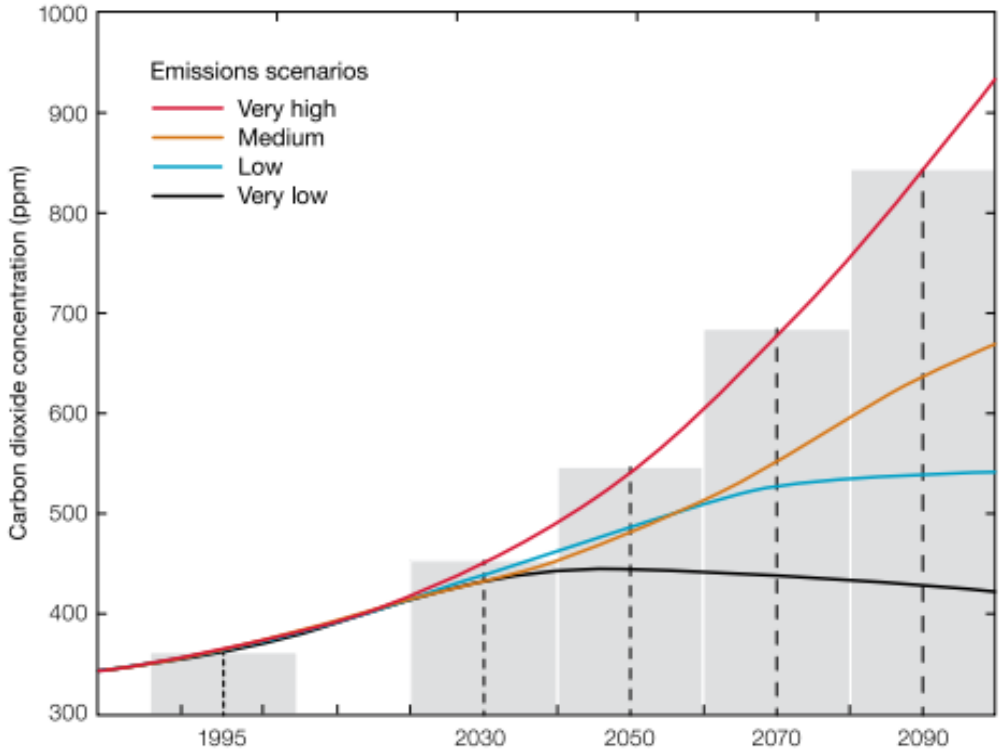



***Figure 15.*** *Carbon dioxide concentrations (ppm) associated with the four emissions scenarios for 20-year time periods centred on 1995 (reference time period) (CSIRO & BoM 2014)*

In 2019, CSIRO commenced the process of updating the PCCSP and PACCSAP projections, utilising the same underlying data. CSIRO has provided a peer reviewed draft (CSIRO & SPREP 2021) to SCA as a reference point for the project.[7] The updated projections confirm the findings of the PCCSP and PACCSAP projections on most indicators and introduce new developments and understanding of three key climate drivers in Vanuatu: extreme rainfall, tropical cyclones and sea level rise. This report draws on the NextGen findings for these drivers to ensure the most up-to-date available science is guiding project activity selection. Use has been made of the CMIP5 model suite, using the RCP2.6, RCP4.5 and RCP8.5 emission scenarios, modelling to the year 2100. Comparisons have been made to the CMIP6 model suite for key parameters, confirming directions and magnitude of change.

The NextGen findings are fully coincident with the headline findings of IPCC Working Group I for the Sixth Assessment Report (AR6) (IPCC 2021). In particular, trends in temperature, rainfall, ocean chemistry, sea level rise and extreme weather events are coincident between

[7] The paper has been accepted for publication. Publication is expected before the end of 2021.

both publications, allowing for regional specificities (such as lower air temperature increase due to the weather systems being driven by the ocean environment).

### 5.1.1. Use of RCPs in analysis and project design

The two lowest emissions scenarios, RCP2.6 and RCP4.5, are below the current global emissions trajectory. According to AR5, in 2011 the total radiative forcing relative to 1750 reached 2.29 $Wm^{-2}$ with *high* confidence. In AR6, by 2019 the radiative forcing had risen to 2.72 $Wm^{-2}$, of which 0.34 $Wm^{-2}$ was due to the increase in GHG concentrations in the atmosphere. Given this trend, RCP2.6 is unlikely to be achieved[8], particularly when considering the pledges made to date on the 2021 update of the NDCs under the Paris Agreement. RCP4.5 is achievable if all current pledges are met and the remaining NDCs to be updated commensurately increase ambition – and that ambition continues to increase over time.

**As a nation highly vulnerable to climate change impacts, Vanuatu needs to protect its population from the hazards presented by the most plausible future climate using the precautionary principle (represented by RCP6.0), rather than an aspirational one (represented by RCP2.6) or even that which is possible if all current pledges are implemented (represented by RCP4.5)**.

This is particularly the case as there remain significant uncertainties at the level of policy response and implementation globally (exemplified by the number of net-zero pledges made that lack a clear implementation framework or pathway to achievement). Therefore, the impact assessment for this project is based on the medium emissions scenario (RCP6.0) as an intermediary between the low emissions scenario (RCP4.5), which is recommended for the planet to avoid significant ecological tipping points (IPCC 2018), and the very high emissions scenario (RCP8.5). There are two considerations that make selection of any *specific* RCP a moot point:

1. **The projected changes do not diverge in a significant way between the RCPs until around 2040**, so the shorter-term projections remain valid regardless of the RCP utilised.
2. **The direction of change for all emissions scenarios is the same** (e.g., higher temperatures, more concentrated rainfall), with increasing intensity depending on longer term trajectories. Application of the precautionary principle, as a matter of good governance, would then point to the use of a higher-rated RCP.

Considering the above and the availability of scientific data on climate change forecasts and impacts specific to Vanuatu, the project design is informed principally by the medium emissions scenario (RCP6.0). Where available, impacts based on RCP4.5 are included. The project actions are also designed to be no-regrets adaptation actions – they will help increase resilience in the face of significant impacts, while still making sense in lower emissions scenarios, and even in a world without climate change impacts due to the target communities' existing exposure and vulnerability to climate extremes.

### 5.1.2. Warming trends and extreme temperatures

Projections for all emissions pathways indicate that the annual average air temperature and SST will increase in the future in Vanuatu (**Table 5** and **Figure 16**), and the magnitude of projected change is similar for the next 20 years under any plausible emissions pathway, but

[8] In the RCP2.6 pathway, radiative forcing peaks at 3.0 $Wm^{-2}$ before 2050 to then fall back to 2.6 $Wm^{-2}$ by the year 2100.

after 2040 there is growing and notable differences between low and high emissions pathways.

For the period to 2100, the projections indicate that annual mean temperatures and extremely high daily temperatures will continue to rise (very high confidence). Increases in average temperatures will also result in a rise in the number of hot days and warm nights and a decline in cooler weather. By 2050, under a medium emissions scenario (RCP6.0), this increase in temperature is projected to be in the range of 0.6-1.3°C, while under a Paris Agreement compatible scenario (RCP4.5) anticipated warming is 0.6-1.5°C. Later in the century the range of the projected temperature increase under the different scenarios broadens (CISRO & BoM 2014). This finding is re-confirmed in the NextGen projections (CSIRO & SPREP 2021). Table 5 shows the anticipated range of warming for Vanuatu in 20-year intervals across all four RCPs. As noted above, the warming trends across RCPs don't start to diverge significantly until around 2040, with a diverging trend showing from mid-century and increasing to the end of the century.

In Vanuatu, warming has occurred and is projected to continue occurring at a lower rate than the global average (+2°C of global warming results in +1.3 to +1.9°C in Vanuatu). Step-like changes in air temperature have occurred in the past and are likely to happen in the future, and therefore planned adaptation actions should consider non-linear and unpredictable warming in the future. The warming trend in Vanuatu is clear (with at least 0.7°C average temperature increase to date) and very high confidence that this trend will continue for the foreseeable future regardless of the emissions scenario.

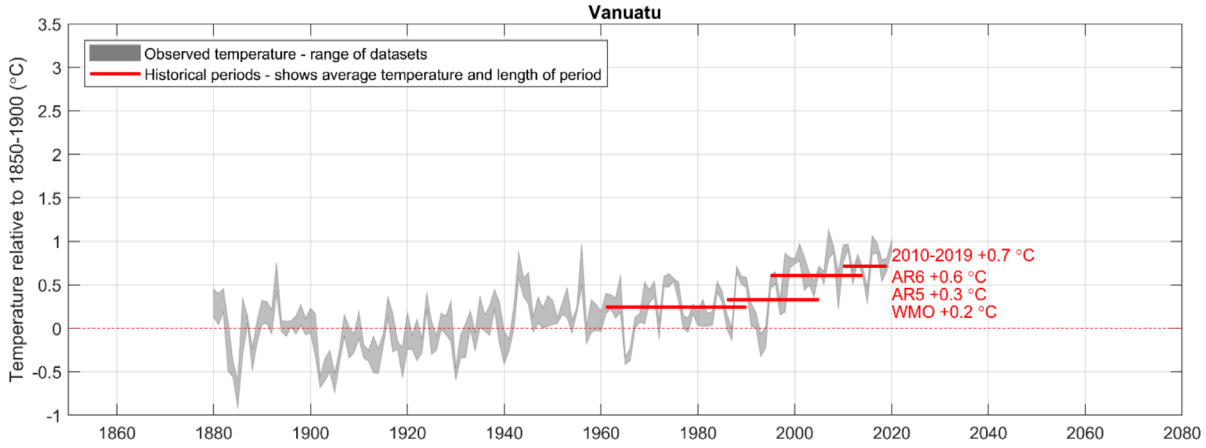



***Figure 16.*** *Observed warming trends in Vanuatu relative to the period 1850-1900. The historical periods in red represent the standard WMO climate reference period 1961-1990, the reference baseline periods for AR5 and AR6 and the most recent decade. (CSIRO & SPREP 2021)*

***Table 5.*** *Projected changes in annual average air temperatures for Vanuatu under four emissions scenarios and for four future periods. Values represent 90% of the range of all models and are relative to the baseline period 1986 – 2005 (CSIRO & BoM 2014)*

| Emissions Scenario | 2030 (°C) | 2050 (°C) | 2070 (°C) | 2090 (°C) |
|---|---|---|---|---|
| Very low (RCP2.5) | 0.4-0.9 | 0.5-1.1 | 0.4-1.1 | 0.3-1.2 |
| Low (RCP4.5) | 0.3-1.0 | 0.6-1.5 | 0.7-1.8 | 0.8-2.0 |
| Medium (RCP6.0) | 0.4-1.0 | 0.6-1.3 | 1.0-1.9 | 1.2-2.5 |
| Very high (RCP8.5) | 05.-1.0 | 0.8-2.0 | 1.5-2.9 | 1.9-4.0 |

SST is also projected to continue warming, by +0.6°C (mean) by 2050 for RCPs 4.5 and 6.0 and +1.3°C (mean) for RCP8.5. By 2090 the models diverge further, with +1.3°C (mean) for RCP4.5, +1.6°C (mean) for RCP6.0 and +1.3°C (mean) for RCP8.5 (CSIRO & BoM 2014). Increasing SST is also likely to drive significant impacts on marine habitats, particularly coral reefs, that are sensitive to above average SST and experience a stress response, known as coral bleaching, where they expel their symbiotic algae (zooxanthellae) under prolonged heatwave (increased SST and high light) conditions (Hoegh-Guldberg 2011; Johnson et al. 2020). Reefs of south Malekula, Ambae, Maewo, south Epi and Tanna are projected to experience annual severe bleaching seven or more years later (2048–2052) than the average for Vanuatu of 2040. While coral reefs around Santo, north Malekula, north Epi and Gaua will experience annual bleaching conditions sooner (2031–2034) (**Figure 17**).

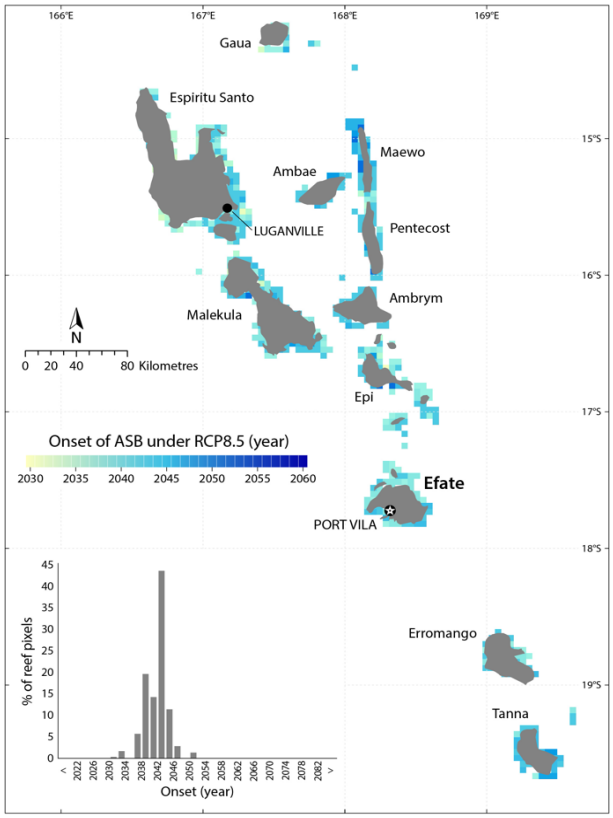



***Figure 17****. Timing of annual severe coral bleaching (ASB), >8 degree heating weeks) under RCP8.5, showing reefs that are temporary refugia with ASB projected to occur later than 2045 (e.g., south Epi) (Maynard et al. 2018)*

### 5.1.3. Rainfall uncertainty, extremes and drought

There is uncertainty around rainfall projections for Vanuatu as model outputs are not consistent. Some models suggest a slight increase in wet season rainfall and a decrease in dry season rainfall, however the overall projection is for little change. Wet and dry years will still occur in response to natural variability and regional drivers, such as El Niño-Southern Oscillation (ENSO). Projections show extreme rainfall days are likely to occur more often. Drought frequency is expected to decrease slightly by the end of the century.

For the period to 2100, the latest global climate model projections and climate science findings indicate:

- Mean annual rainfall could increase or decrease with the model average indicating little change (low confidence), with more extreme rain events (high confidence); and
- Incidence of drought is projected to decrease slightly under the high emission scenario and stay approximately the same under the other emissions scenarios (low confidence).

This is supported by the results from the Pacific Climate Change Science Program (CSIRO & BoM 2014) modelling (**Figure 18**).

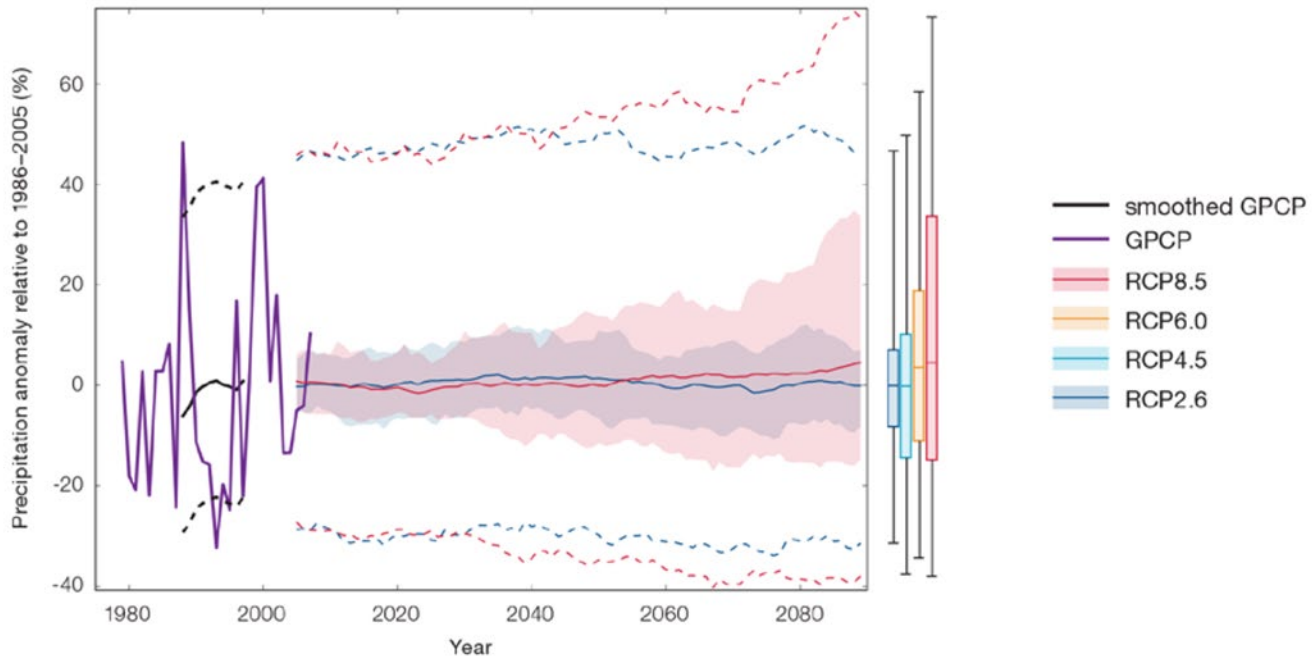



***Figure 18.*** *Observed and simulated annual average rainfall time series for the region surrounding Vanuatu. The graph shows the anomaly (from the base period 1986–2005) in rainfall from observations (the GPCP dataset, in purple), and for the CMIP5 models under the very high (RCP8.5, in red) and very low (RCP2.6, in blue) emissions scenarios. The solid red and blue lines show the smoothed (20- year running average) multi-model mean anomaly in rainfall, while shading represents the spread of model values (5–95th percentile). The dashed lines show the 5–95th percentile of the observed interannual variability for the observed period (in black) and added to the projections as a visual guide (in red and blue). This indicates that future rainfall could be above or below the projected long-term averages due to interannual variability. The ranges of projections for a 20-year period centred on 2090 are shown by the bars on the right for RCP8.5, 6.0, 4.5 and 2.6 (CSIRO & BoM 2014)*

In addition, according to the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (IPCC 2019), extreme ENSO events are projected to occur twice as often under both low (RCP2.6) and high (RCP8.5) emissions scenarios in the 21st century when compared to the 20th century (medium confidence). For Vanuatu, this would mean an increased climate variability associated with ENSO and frequency of flooding and droughts.

Preliminary results from the latest Vanuatu climate modelling being undertaken with support from the Australian Government (NextGen Project, CSIRO & SPREP 2021) show that rainfall change is more uncertain than temperature change, and trends are less obvious given the very high climate variability. The average result from climate models is for a small change in the average rainfall annually. But there are a range of possible future trajectories, from wetter through to drier, largely determined by future change in the South Pacific Convergence Zone. Therefore, planned adaptation actions should consider the impacts of both increased incidence of extreme rainfall events and changes expected seasonal rainfall (with implications for rain-fed agriculture).

While the total annual quantum of rainfall may not change dramatically – or at least it isn't currently possible to reliably project the direction of any change, people in Vanuatu will continue to live with significant rainfall variability and escalating extremes. Of particular concern is the likelihood that climate change will increase the variability of the country's rainfall. This is especially true for the remote and rural populations the VCCRP will target, given their reliance on subsistence rain-fed agriculture, which is particularly susceptible to climate change induced changes in rainfall patterns, extreme rainfall leading to flooding, droughts, heatwaves, salinization, increases in evapotranspiration, seasonal variations, and reduction in freshwater availability. Under an RCP4.5 scenario, soil moisture is expected to decrease significantly, and potential evapotranspiration is increased, indicating significant stress on non-irrigated crops (see **figures 19a and b**, below)[9]. These climate impacts are exacerbated by soil erosion and loss of soil fertility due to deforestation and environmental degradation.

In order to ensure vulnerable remote and rural communities have increased resilience to climate change, it is important to develop and deliver adaptation actions in the agriculture sector that will help increase food security across a range of climate futures – from wetter to drier. The VCCRP activities will seek to do this.

[9] SMHI, Climate Information, https://climateinformation.org/, last accessed: 2021-06-23

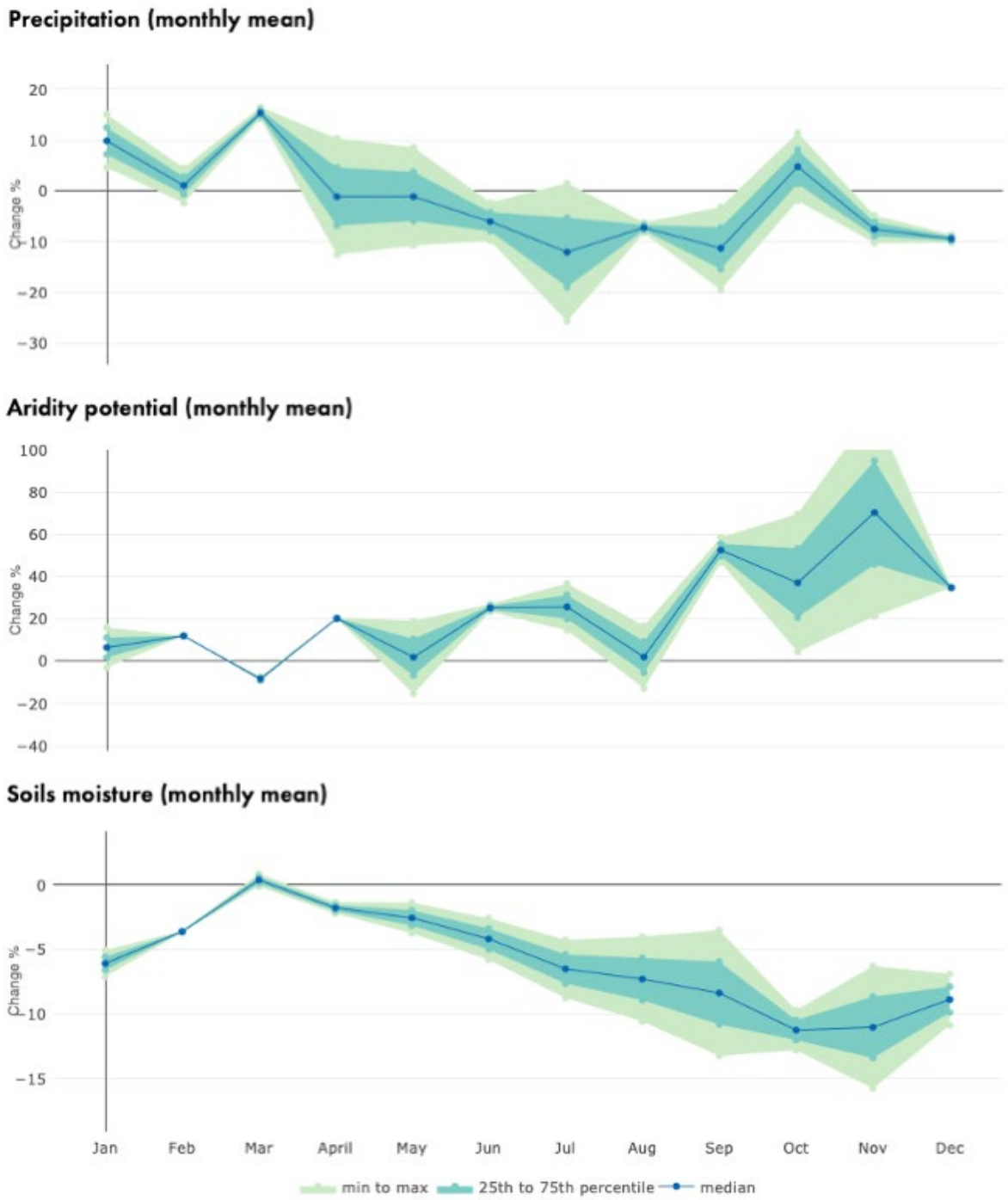



***Figure 19a**. Espiritu Santo, monthly average precipitation, aridity potential and soil moisture, for the time period 2041-2070 relative to the period 1981-2010. Model CORDEX Australia - WWHYPE Ensemble Mean, RCP4.5 (west coast; 14.96 S - 166.65 E) (SMHI, Climate Information, https://climateinformation.org/, accessed on 2021-07-20)*

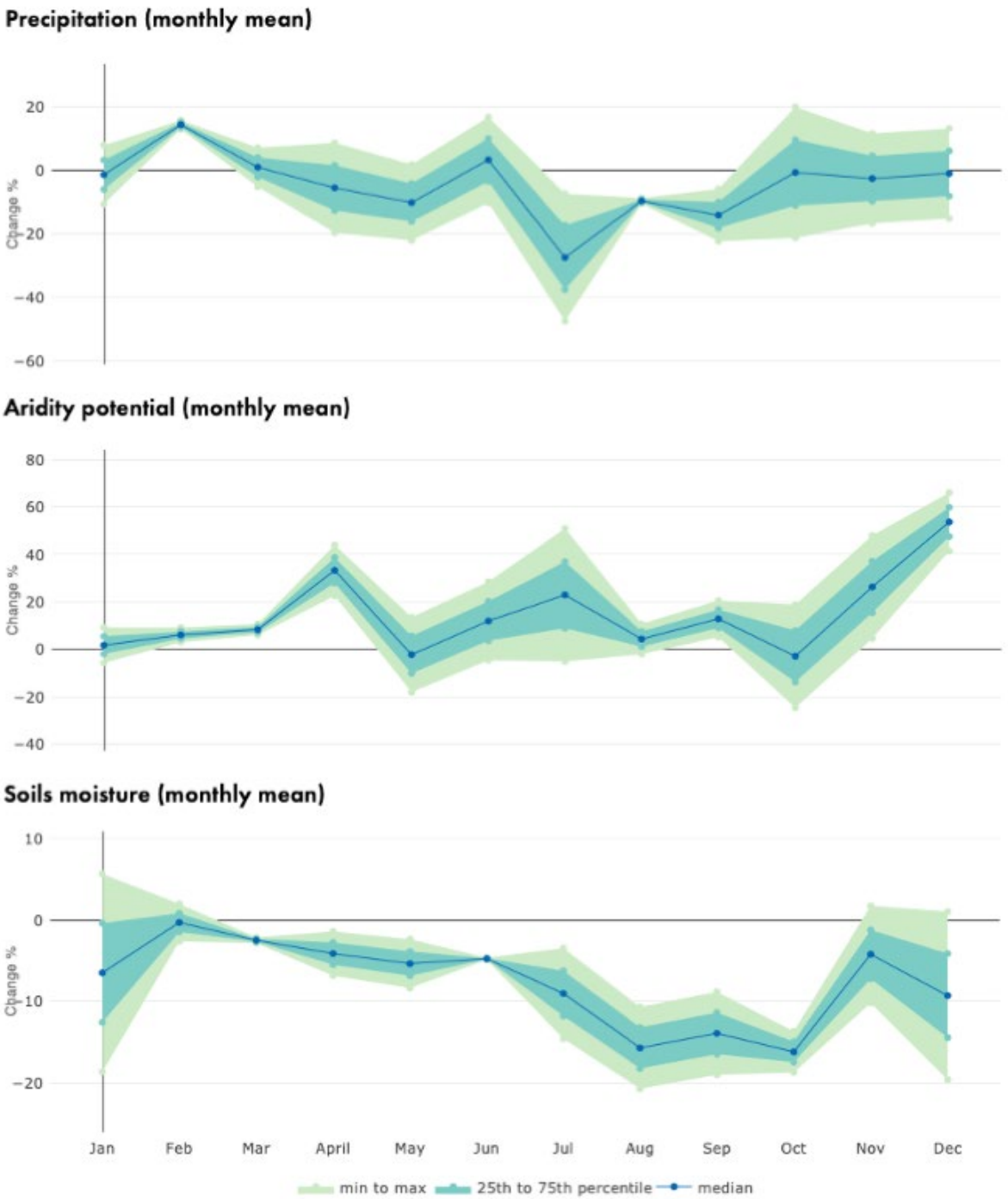



***Figure 19b**. Tanna, monthly average precipitation, aridity potential and soil moisture, for the time period 2041-2070 relative to the period 1981-2010. Model CORDEX Australia - WWHYPE Ensemble Mean, RCP4.5 (19.47 S - 169.34 E) (SMHI, Climate Information, https://climateinformation.org/, accessed on 2021-07-20)*

### 5.1.4. Tropical cyclones

On a global scale, climate projections indicate there is likely to be a decrease in the number of tropical cyclones by the end of the 21st Century. However, for cyclones that do occur, there is likely to be an increase in the average maximum wind speed by about 5%, an increase in rainfall intensity of about 14% within 100 km of the cyclone centre, and a likely (around 13%) increase in the proportion of cyclones that reach very intense levels (category 4-5) (Knutson et al. 2020). This is coincident with the projected change in TC activity reported in AR5:

"Negligible change in overall frequency. Significant (~15%) increase in number of Category 4–5 TCs" (IPCC 2013, section 11.3.2.5.3). AR6 reports for "Projected changes at +2°C global warming", compared to pre-industrial conditions, that there is "*high confidence* in a projected increase of TC rain rates at the global scale; the median projected rate of increase due to human emissions is about 14%" and that there is "*high confidence* for an increase in the proportion of TCs that reach the strongest (Category 4-5) levels. The median projected increase in this proportion is about 13%" (IPCC 2021, section 11.1.7).

With regard to the implications of future projected climate change on tropical cyclones, the NextGen projections conclude that the "evidence suggests that for the southwestern Pacific as a whole, the total number of tropical cyclones may decrease over the century, but with an increase in the average intensity and an increase in the impacts of tropical cyclones through more intense rainfall and greater coastal inundation due to sea level rise" (CSIRO & SPREP 2021) (**Figure 20**).

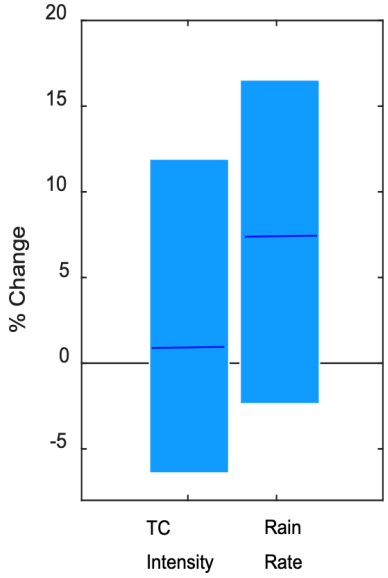



***Figure 20.*** *Likely increase (but possible decrease) in the average intensity of TCs in the southwest Pacific, and the very likely increase in the rainfall they bring. Shown are the median (blue line) and the 10th–90th-percentile ranges (blue bars) (CSIRO & SPREP 2021, based on Knutson et al. 2020)*

Vanuatu is affected by an average of 2.4 cyclones annually (ranging from 0-6 per year in recent decades). 29 of 71 tropical cyclones (41%) that have affected Vanuatu since 1981 have been severe (category 3 or above). Even with a reduction in the total number, an increase in the average severity could prove catastrophic to the lives and livelihoods of people, particularly in remote and rural coastal location.

### 5.1.5. Climate change projections summary

There is very high confidence in the direction of long-term change in a number of key climate variables, specifically increases in mean and extreme air and sea temperatures, sea level rise and ocean acidification.

Climate change projections for Vanuatu have been delivered by the Pacific Climate Change Science Program, led by the Australian Government in collaboration with the Vanuatu Meteorology and Geohazards Department (VMGD) of the Government of Vanuatu (CSIRO & BoM 2014). These projections have been re-confirmed and extended by the NextGen projections (CSIRO & SPREP 2021) and are fully coincident with global and regional forecasts reported in AR6 (IPCC 2021). The combined findings can be summarised as follows:

- Increases in daily ***air temperatures*** are projected across all of Vanuatu for minimum, mean and maximum daily temperatures. Compared to 1995, temperature will be higher by 0.9-1.3°C by 2050, and 1.3-2.7°C by 2090 (high confidence).
- ***Extreme air temperatures*** will reach higher levels and become more frequent. By 2040, the current 1-day maximum occurring once every 20 years will occur every 2 years (high confidence).
- Increases in ***sea surface temperature*****s** will mean reefs around Vanuatu will experience conditions that exceed thermal thresholds known to cause coral bleaching (above 29.5°C) more often, but impacts will be spatially and temporally variable (high confidence).
- ***Extreme sea surface temperatures*** (marine heatwaves) will occur more often, increasing from 10% of the time currently to 25% of the time by 2040 (high confidence).
- Projections of changes in ***rainfall amounts*** have low confidence, and trends are unclear given the very high climate variability in Vanuatu. There are a range of possible future trajectories, from wetter to drier, largely determined by future changes in the South Pacific Convergence Zone. This will pose challenges to planning and policy development, and therefore planning should consider both a wetter and a drier future.
- ***Extreme rainfall*** will become more frequent and intense (high confidence). By 2040, the 1 in 100-year event intensity will increase to 10-11%. This change is the same across all islands. Frequencies of current extreme events will increase by 1.2-2.5%.
- The duration of ***dry periods (droughts)*** will become longer (low confidence). The 1 in 5-year event will lengthen from 19 days to 28 days.
- ***Tropical cyclones*** are projected to be less frequent (decrease in cyclone formation) but more intense (medium confidence).
- ***Sea level*** is estimated to be currently increasing by 6 mm/year since 1960. Models simulate an increase of up to 35 cm (15-35 cm) by 2050, with increases of up to 89 cm (30-89 cm) indicated by 2090 (high confidence). Information on local vertical land movement is crucial. For example, in Port Vila, a sea level rise of 159 cm is projected for 2100, when the observed subsidence of 4.8 mm/year is considered.
- In 20 years' time, it is projected that continued ***ocean acidification*** will result in seawater chemistry that is only marginally suitable for calcification, affecting reef accretion and structure on 80% of coral reefs around the world, including those in Vanuatu (Lenton et al. 2015).

The projected changes in the annual and seasonal mean climate for Vanuatu under the low (RCP4.5), medium (RCP6.0) and high (RCP8.5) emissions scenarios are provided in **Table 6**. Projected changes are given for 2050 and 2090 as representative medium- and long-term future planning horizons, relative to a 20-year period centred on 1995. Values represent the multi-model mean change, with the 5–95% range of uncertainty in brackets.

***Table 6.*** *Vanuatu average climate conditions and future projections under climate change RCP6.0 (medium) and RCP8.5 (high) emissions scenarios. Confidence in the magnitude of change is expressed as very high or high (green), medium (orange) or low (red) (CSIRO & BoM 2014)*

| | 1986 - 2005 average annual | 2050 | | | 2090 | | |
|---|---|---|---|---|---|---|---|
| | | RCP4.5 | RCP6.0 | RCP8.5 | RCP4.5 | RCP6.0 | RCP8.5 |
| **Air temperature (℃)** | 23.5 to 27.5 | +0.6 to +1.5 | +0.6 to +1.3 | +0.8 to +2.0 | +0.8 to +2.0 | +1.2 to +2.5 | +1.9 to +4.0 |
| **Rainfall (mm)** | 2,118 | Mean annual rainfall could increase or decrease with the model average indicating little change; More extreme rainfall events. | | | | | |
| **Cyclones (# per year)** | 2.6 | More intense; less frequent (formation -5 to -30%) | | | | | |
| **Sea level (cm)** | +0.6cm/yr | +15 to +32 | +15 to +31 | +17 to +35 | +30 to +67 | +32 to +69 | +42 to +89 |
| **Ocean chemistry**<br>**pH (units)**<br>**Aragonite saturation (Ω)** | <br>8.08<br>3.9 | <br>n/a<br>3.3 | <br>n/a<br>n/a | <br>-0.1<br>3.4 | <br>n/a<br>3.1 | <br>n/a<br>n/a | <br>-0.3<br>2.4 |
| **ENSO** | Source of inter-annual variability | Continued source of inter-annual variability | | | | | |

### 5.1.6. Scope of climate drivers considered in this project

As noted in the IPCC AR5, the high ratio of coastal area to land mass on small islands makes adaptation to sea level rise a significant financial and resource challenge, particularly since they most often require relocation and/or significant infrastructure investment. Both these types of adaptation actions are outside the scope of this project (and the category of funding). The adaptation options for small islands that are most cost effective and successful have been shown to be community-based resource management approaches, including nature-based solutions to coastal protection. Further, global reviews of marine resources in particular (e.g., Gaines et al. 2018) have found that to optimise resilience to climate change, the primary need is to ensure that basic management is effective and sustainable. Therefore, supporting communities to maintain healthy ecosystems and restore degraded habitats, fortifies food and livelihood security and reduces vulnerability to disaster risk, which are paramount for increasing resilience to future climate uncertainty and change. **This project therefore focuses on adaptations that support community-based actions and increase local capacity to build sustainable food-systems, livelihoods and reduce disaster risk.**

**Current available evidence indicates the climate change challenges facing communities in Vanuatu are due to increasing frequency and/or intensity of extreme events:**

1. **Temperatures: air and sea** (including minimum, mean and maximum daily temperatures and events such as heatwaves). Slow onset change is also a key longer-term driver.
2. **Rainfall patterns** (including increased duration of dry periods, changing frequency and intensity of extreme rainfall and ENSO associated rainfall).
3. **Tropical cyclones** (increased intensity, not frequency, predicted including severe wind) and waves, and intense rainfall and flooding).

In addition to addressing these specified sectors and climate risks, the community adaptation actions implemented through the project will provide co-benefits that will increase resilience to climate impacts out of scope, such as water insecurity and health outcomes (see **Section 12.3**). These co-benefits will be achieved through the capacity and resilience building activities conducted with communities, as well as through partnerships and collaboration with complementary projects, such as the Vanuatu Department of Water projects.

## 5.2. Impacts of changing climate trends on natural and human systems

The climate change projections summarised in **Section 5.1** are expected to have profound effects on the status and distribution of terrestrial, coastal and marine habitats, the species they support and, as a result, the communities and industries that depend on them in Vanuatu, though the specific impacts are impossible to predict at this time (**Table 7**). These impacts could lead to long-term social and ecological consequences on natural and human systems at a community and national scale if not abated. Rural Vanuatu communities in low-lying islands and coastal areas are particularly vulnerable to the impacts of climate change as they are highly exposed to hazards and have minimal adaptive capacity.

The projected changes in climate are expected to alter species distributions, the timing, location and extent of ecosystem productivity undermining food webs, breeding seasons, the condition of habitats and therefore the availability of natural resources for communities. As a ‘large ocean nation’ with a population largely dependent on a subsistence-based agricultural and fisheries production system, highly dependent on access to healthy natural resources, climate change impacts on food systems and artisanal livelihoods will be most critical, in particularly agriculture and fisheries. Similarly, climate impacts that damage important infrastructure and habitats (e.g., severe tropical cyclones and heatwaves), cut off access to essential services, such as healthcare (e.g., storm surge and flooding), or limit opportunities for sustainable development of livelihoods (e.g., reef damage that impacts eco-tourism) are also of concern. Therefore, this project has focused on those climate changes that most threaten food systems, local livelihoods, community health and wellbeing.

### 5.2.1. Food insecurity due to declining agriculture and fisheries

***Agriculture***

Due to the large amount of the population, around 80%, being dependent on subsistence agriculture, climate change impacts pose a significant risk to Vanuatu’s agriculture sector and food security. Agricultural activities in Vanuatu are particularly susceptible to climate change induced changes in precipitation patterns (as most cropping practices are rain-fed), extreme

rainfall leading to flooding, droughts, salinization processes, increases in evapotranspiration, seasonal variations, and reduction in freshwater availability. Prolonged and intense rainfall, for example, damages seedlings and encourages conditions that promote diseases and pests. Droughts create additional thermal stress on plants. Projected air temperature increases are likely to reach the maximum heat tolerance thresholds of some staple crops and induce heat stress and crop failure, especially in traditional crops such as cassava, taro and yam. Communities on Torres islands, South Santo, South Malekula, Central Pentecost, Epi, Erromango, Aniwa and Aneityum in particular have reported impacts from increased temperatures and droughts on declining crop yields and lowered livestock productivity during the 2015-2016 El Niño period. Regional studies highlight the impacts of climate change on the agricultural sector, which include reduction in crop yields, damage from cyclones, increases in evapotranspiration rates, changes in growing seasons and reductions in water availability. These climate impacts are exacerbated by soil erosion and loss of soil fertility due to improperly managed deforestation and environmental degradation. Furthermore, anthropogenic and demographic pressures through population growth, migration / urbanization, loss of social cohesion and culture and overuse of natural resources (through poor land management practices) are exerting unsustainable pressures on natural resources with associated loss of ecosystem services.

### *Fisheries*

*Impacts on species and habitats*

Climate change is expected to impact coral reef fish and invertebrate species in Vanuatu by altering their distribution and abundance. These changes will occur as direct impacts from changes in climate variables, or indirectly as key habitats are also impacted by climate change.

Projected increases in SST will change metabolic rates, growth, reproduction and survival of demersal fish and invertebrate species (Johnson et al. 2018, 2020). This will result in changes in species abundance, distribution and sizes (Asch et al. 2018; Munday et al. 2008). Thermal optimums are known for some coral reef species, including some important species groups (e.g., groupers), for which thermal limits may be reached by 2040 or sooner (Johansen et al., 2014; Pratchett et al. 2017) for most islands, in line with increasing coral bleaching thresholds (**Figure 17**). Also, as coral bleaching conditions increase, this will also cause a concomitant increase in the incidence of short-term marine heat wave events which have caused fish kills in Vanuatu as recent as early 2021. Although they are capable of moving to deeper water seeking favourable conditions, some fish will become less catchable for local fishers. Increasing SST may also alter the timing of some seasonal small pelagic fisheries such as mangru. Changes in the strength and directions of ocean and local currents is likely to affect larval dispersal with potentially positive or negative effects based on recruitment success that will be geographically variable (Bell et al. 2011). Ocean acidification is likely to alter behaviour and physiological functioning in the early life history of some coral reef species, reducing their early survival and recruitment success (Munday et al. 2013; Simpson et al. 2011; Dixson, et al. 2010). Acidification is also expected to reduce calcification rates in several important invertebrate species, making them more vulnerable to predation and disease (Bell et al. 2011). Key climate drivers of these direct impacts are increases in SST, changes in currents, ocean acidification and marine heat wave events.

Climate changes predicted to occur in Vanuatu are also expected to reduce the condition and area of coastal habitats; coral reefs, mangroves and seagrass (Johnson et al. 2017). Coral reefs are the dominant coastal marine habitat in Vanuatu and provide shelter and food for the majority of species that communities rely upon. Further, mangroves and seagrass provide important habitats for key invertebrates and as fish nursery areas. Increasing SST is expected to result in severe coral bleaching becoming an annual event for most of Vanuatu by 2040 and

in some places may be occurring as early as 2031 (see **Section 5.1**). Ultimately, live coral cover is expected to be reduced by 50-75 % by 2050 (Bell et al. 2011) causing a regime shift to reefs being more macroalgae dominated. Similarly, seagrass and mangrove habitats are expected to decrease by 5-35% and up to 50% respectively (Bell et al. 2011; Asch et al. 2018). These impacts are expected to further reduce the productivity and abundance of coastal resource populations. Key drivers of habitat impacts are increasing SST, more intense cyclones, heatwave events (air and marine), more intense rainfall events coupled with increasing drought severity, ocean acidification and sea level rise.

Collectively these impacts are expected to decrease the productivity of demersal fish species in Vanuatu coastal waters by approximately 20% by 2050, and by over 50% by 2100 (Bell et al. 2011; Asch et al. 2018). Productivity of invertebrates is projected to decrease by 5% and 10% by 2050 and 2100 respectively (Bell et al. 2011). These changes are predicted to threaten the viability of artisanal fisheries for income in Vanuatu by 2050 (Bell et al. 2018) and will threaten food security for local communities.

*Non-climate impacts*

While the expected climate change impacts on Vanuatu's coastal ecosystems are dire, in the short-medium term, coastal fisheries in Vanuatu remain at immediate risk from non-climatic pressures. In particular, overfishing due to increasing human populations and demand for food, and habitat degradation due to increasing land use and pollution (Gillet and Cartwright 2010). While climate change impacts are already evident and will increase through time, existing pressures serve to decrease the resilience of the system to future climate-related impacts. Low system resilience is likely to accelerate the impacts caused by climate change. These forces have very similar impacts on coastal resources and habitats collectively creating a cumulative effect, and therefore, the impacts of climate change need to be addressed in the context of other factors that also affect coastal resources.

*Projected impacts on communities - Food security & livelihoods*

- Lower abundance and catches of traditionally targeted species
- Longer travel and fishing times with increased risk
- A 'race to fish' resulting in poaching and a breakdown of traditional marine tenure structures
- Reduction in food security
- Reduction in the supply of a healthy protein source, and an increasing reliance on less healthy imported products
- Reduced amount and regularity of income from fishing
- Increased intensity of cyclones will increase the likelihood of gear and vessel losses, FADs and infrastructure damage, as well as lost fishing days.
- Fishing farther away likely to increase conflict between marine resource owners and expose fishers to greater risk at sea.

### 5.2.2. Increased disaster risk

Projected climatic trends will increase the risk of some disasters (i.e., cyclones, storm surges, flooding, landslides, sea-level rise, and drought), exacerbating Vanuatu's ranking as one of the world's most vulnerable countries.

Slow onset climate change impacts and disasters can be detrimental to livelihoods (including agriculture and fisheries), reducing the ability of the population to respond to and recover from disasters and less immediate climate change impacts. Disasters also pose a direct threat to

the physical safety of the population, food security, water security, human health, infrastructure and revenue generation in Vanuatu. In the current climate change context of increasing likelihood of compound disasters (when a second disaster occurs in a location that has not yet recovered from a previous disaster), vulnerability could be exponentially aggravated.

The primary disaster concerns related to climate change include:

- Heatwaves affecting human health and food production
- Marine heatwaves impacting catches of fish
- Extreme rainfall events increasing the occurrence of landslides and flooding (especially in areas where exposure is exacerbated by inadequate management of agriculture, forest resources and catchments)
- Drought impacting food production, water availability and quality, and human health
- Tropical cyclones (projected to be less frequent but more intense), extreme storm events and increased storm surge affecting the physical safety of the population, human health, food security, water security, water quality, infrastructure, investments, etc.

While the Vanuatu government is working to improve infrastructure and services to encourage economic growth, government resources are limited by restricted opportunities for international loans and high-costs, combined with low internal tax revenue. Models show that Vanuatu may experience an average of USD 48 million in losses annually due to disasters. It is estimated that TC Pam in 2015, in a single disaster event, caused approximately USD 449.4 million of damage (64.1% of Vanuatu's GDP). The livelihoods of 80% of Vanuatu's population were affected. The damage / destruction of 15,000 buildings left 65,000 people without shelter. According to the Vanuatu Mini-Census of 2016, 55.9% of rural households received disaster support that year. The percentage of households requiring disaster support in Shefa Province was 89.9%; in Tafea Province it was 98.4% (Esler 2015). Climate change projections indicate that limited government resources will be increasingly in demand, challenging the government's ability to provide effect disaster response. More recently, TC Harold, which struck Vanuatu in late 2020, caused losses equivalent to 61% of GDP (GoV 2020).

In this context, disaster risk reduction is a precursor to addressing vulnerability, facilitating adaptation outcomes and increasing resilience to climate-related impacts. Climate change adaptation (CCA) and DRR efforts aim to build the resilience of people, economies and natural resources to the impacts of extreme weather and climate change. As climate change is a major driver of disaster losses and amplifies risk, the development of local DRR plans, and the community engagement that underpin them, must integrate near-term climate change scenarios, and expand the enabling conditions for transformative adaptation. Community-level DRR and CCA governance mechanisms and processes are also increasingly burdened and under-resourced.

VCCRP's approach to addressing climate-related disaster risk is guided by the Vanuatu Disaster Risk Reduction Policy 2016-2030. Key features of VCCRP outlined in the 2016-2030 Policy include:

- Establishing and fortifying subnational and community level activities and traditional governance systems
- Enabling the active participation of vulnerable groups
- Strengthening capacity for engaging in framework processes
- Reinforcing traditional knowledge
- Facilitating knowledge sharing

The key projected impacts by climate driver for each sector are summarized in **Table 7**. **Figure 21** summarises the impact chains and ultimate potential climate risks on Vanuatu's rural communities in the form of a problem tree.

***Table 7.*** *Summary of Vanuatu Projected Impacts Due to Climate Change*

| Sector | Physical climate driver | Biophysical impacts | Socio-economic impacts |
|---|---|---|---|
| Agriculture | Drought | • Decreased moisture and soil fertility<br>• Increased risk of fires<br>• Increased crop vulnerability to pests<br>• Soil hydrophobia<br>• Plant stress<br>• Water shortages<br>• Slow growth and low yield of crops | • Reduced food security<br>• Low productivity for farmers<br>• Reduced livelihoods/income from agricultural sales<br>• Increased vulnerability to post-cyclone food deficits<br>• Human health and nutrition impacts<br>• Increased dependence on government/international aid<br>• Possible increase in migration<br>• Delayed/cancelled weddings and other cultural ceremonies |
| | Intense rainfall | • Affect planting time and date of crops<br>• Affect harvest periods and storage of produce<br>• Erosion of topsoil and nutrients for crops<br>• Reduced soil fertility<br>• Water logging of roots causing rotting of root crops<br>• Reduced yield<br>• Loss of flowers/reduced yields (especially fruit and nut trees)<br>• Flooding of agriculture lands<br>• Create favourable conditions for spread of pests and diseases<br>• Encourage growth and spread of invasive species<br>• Encourage weed growth which can compete with plants for nutrients | • Reduced food security<br>• Low productivity for farmers<br>• Reduced livelihoods/income from agricultural sales<br>• Inability to safely access markets with resources for income security<br>• Human health and nutrition impacts |
| | Severe winds | • Loss of flowers/reduced yields (especially fruit and nut trees)<br>• Loss of leaves in short-cycle crops<br>• Plant collapse<br>• Reduced production from windburn | • Reduced food security<br>• Low productivity for farmers<br>• Reduced livelihoods/income from agricultural sales<br>• Human health and nutrition impacts |
| | Air temperature increase | • Encourage pest and disease infestations<br>• Change planting/flowering times (potential lack of synchronization with pollinators)<br>• Increased spread and proliferation of invasive species | • Reduced food security<br>• Reduced livelihoods/income from agricultural sales<br>• Human health and nutrition impacts<br>• Increased dependence on government/international aid<br>• Possible increase in migration |

| | | | |
|---|---|---|---|
| | | • Reduced yield of crops due to heat stress<br>• Decrease soil moisture and increase water demand for crops<br>• Affect crop physical development and maturation of crops<br>• Affect soil physical and chemical properties<br>• Reduced length of crop cycles | • Delayed/cancelled weddings and other cultural ceremonies |
| | Unpredictable rainfall | • Changes in planting times, crop maturation and harvest<br>• Agricultural drought | • Reduced food security<br>• Reduced livelihoods/income from agricultural sales<br>• Increased dependence on government/international aid<br>• Possible increase in migration<br>• Delayed/cancelled weddings and other cultural ceremonies |
| | More intense cyclones | • Appearance of invasive species<br>• Seed loss/crop destruction<br>• Loss of topsoil<br>• Landslides | • Reduced food security<br>• Reduced livelihoods/income from agricultural sales<br>• Increased dependence on government/international aid<br>• Possible increase in migration<br>• Delayed/cancelled weddings and other cultural ceremonies<br>• Prolonged periods to recover agricultural production (4-12 months) |
| | Extreme heatwaves | • Reduced yields<br>• Crop damage due to extreme heat | • Reduced food security<br>• Reduced livelihoods/income from agricultural sales<br>• Increased dependence on government/international aid<br>• Possible increase in migration<br>• Delayed/cancelled weddings and other cultural ceremonies |
| Fisheries | Drought | • Habitat damage<br>• Reduced abundance of coastal resources<br>• Altered species composition | • Reduced food security<br>• Reduced income from coastal resources<br>• Lower abundance and catches of traditionally targeted species. |
| | Intense rainfall | • Habitat damage<br>• Reduced abundance of coastal resources<br>• Altered species composition | • Reduced food security<br>• Reduced income from coastal resources<br>• Lower abundance and catches of traditionally targeted species.<br>• Inability to transport resources to markets safely for income generation |
| | Sea temperature increase | • Species distribution shifts, spatially and depth-related<br>• Physiology changes<br>• Altered timing of reproduction, migration, abundance change<br>• Reduced recruitment<br>• Changes in upwelling timing and latitude<br>• Habitat damage | • Reduced food security<br>• Reduced and less reliable income from coastal resources<br>• Lower catches of traditionally targeted species.<br>• Reduced catchability of target species<br>• Longer travel and fishing times<br>• A ‘race to fish’ resulting in poaching and a breakdown of traditional marine tenure structures<br>• An increasing reliance on less healthy imported food products |

| | | | |
|---|---|---|---|
| | | • Increased coral bleaching frequency and severity<br>• Increased risk of disease<br>• Reduced fisheries productivity<br>• Changes in species availability<br>• Reduced abundance of coastal resources | • Fishing farther away likely to increase conflict between marine resource owners |
| | SST and air temperature extreme events | • Coastal resource kills (fish and invertebrates)<br>• Increased coral bleaching frequency and severity<br>• Mangrove die-off | • Reduced food security<br>• Reduced and less reliable income from coastal resources |
| | Ocean acidification | • Altered species behaviours that compromises survival<br>Reduced calcification rates in coastal invertebrates and corals | • Reduced food security<br>• Reduced and less reliable income from coastal resources<br>Lower catches of traditionally targeted species. |
| | More intense cyclones | •<br>• Habitat damage | • Fewer fishing days<br>• Increased loss/damage of fishing gear<br>• Increased loss/damage of boats<br>• Loss/damage of FADS or other infrastructure<br>• Reduced catchability of target species |
| | | | |
| Water | Drought | • Hydrophobic soils and reduced groundwater recharge<br>• | • Water insecurity<br>• Human health and nutrition impacts |
| | Intense rainfall | • Erosion<br>• Flooding<br>• Landslides<br>• Decreased recharge of groundwater resources despite similar quantities of rainfall<br>• Sedimentation of water sources<br>• Contamination of water sources by latrines | • Water insecurity<br>• Reduced quality of water<br>• Human health and nutrition impacts |
| | Severe winds | • Loss/damage of well covers | • Reduced quality of water |
| | Air temperature increase | • Hydrophobic soils and reduced groundwater recharge<br>• Decreased fresh water source quality<br>• Reduced river flow and groundwater storage<br>• Increased evapotranspiration | • Water insecurity<br>• Reduced quality of water<br>• Human health and nutrition impacts |

| | | | |
|---|---|---|---|
| | Unpredictable rainfall | • Meteorological drought<br>• Agricultural drought | • Water insecurity<br>• Human health and nutrition impacts |
| | More intense cyclones | • Erosion<br>• Floods<br>• Landslides<br>• Decreased recharge of groundwater resources despite similar quantities of rainfall<br>• Sedimentation of water sources<br>• Contamination of water sources | • Water insecurity<br>• Human health and nutrition impacts<br>• Damage to water tanks and infrastructure<br>• Increased dependence on government/international aid |
| | | | |
| Community resources and cultural/social systems/disaster risk | Drought | • Reduced availability of traditional building materials<br>• Reduced availability of traditional medicine | • Increased reliance on store-bought materials and need for cash income<br>• Delayed / cancelled ceremonies / weddings<br>• Human health and nutrition impacts<br>• Increased dependence on government/international aid |
| | Intense rainfall | • Erosion<br>• Landslides<br>• Flooding<br>• Reduced availability of traditional medicine<br>• Fallen trees/vegetation<br>• Contamination of water sources | • Human health impacts<br>• Damage to infrastructure (including footpaths and agricultural plots)<br>• Reduced community access due to damage to infrastructure such as roads and bridges |
| | Air temperature increase | • Increase/changes in pathogens<br>• Reduced availability of traditional building materials<br>• Reduced availability of traditional medicine | • Human health impacts<br>• Increased dependence on government/international aid |
| | Heatwaves | • Extreme temperatures | • Human health impacts<br>• |
| | More intense cyclones | • Flooding<br>• Heavy winds<br>• Heavy rains | • Need for cyclone shelters<br>• Need for post-disaster food and water supplies<br>• Need for increased resilience of agricultural systems<br>• Need for increased well-managed fisheries to supply post-disaster protein<br>• Contamination of primary water sources<br>• Increased exposure of women and girls to risk<br>• Damage to homes, schools, clinics and other infrastructure<br>• Damage to transportation systems<br>• Damage to communication and EWS<br>• Human health impacts |

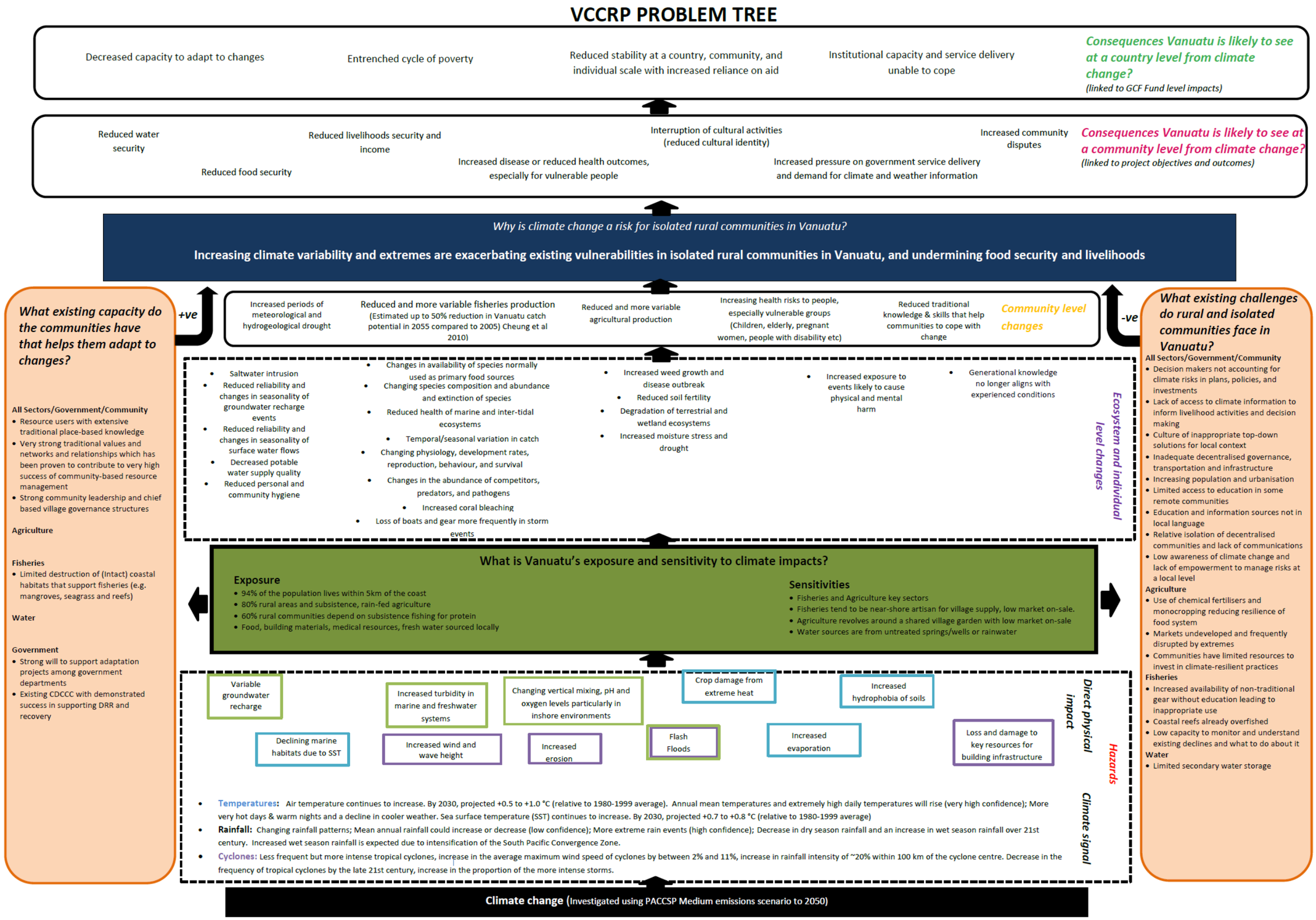



***Figure 21.*** *Summary of the climate problem and entry points for adaptation actions in rural coastal communities in Vanuatu*

### 5.2.3. Disproportionate impacts on marginalised groups

Existing inequality and disadvantage in Vanuatu are amplified by climate change. Access to resources, decision making, information and safety are all mediated through norms associated with gender, disability and age. In rural communities, agriculture and fisheries are family enterprises with different roles undertaken by men, women of different ages and abilities. However, men own the majority of resources and women's access is based on fathers, husbands and sons. Decision making positions in kastom governance as well as national and provincial government are almost exclusively male. At family level there is greater evidence of shared decision making. Community development, church and market committees are all places where space has been created for women's decision making and is starting to shift social norms. People with disability remain excluded from these structures.

National agriculture and fisheries policies now recognise the value of and importance of engaging whole communities – women and men of all ages and people with disabilities. However long-established practices of working with male heads of household, focusing on their roles in agriculture and fisheries are slow to change. Women's roles in ensuring food security and value adding through marketing, food and handicraft production have not been a focus of CCA intervention. Yet women's ability to grow food, fish, collect marine resources, access fresh water are all directly impacted by drought, heavy rainfall, high seas and depleting marine resources. Work burdens are increasing, and women face risks of gender-based violence travelling further to gardens and to collect water. Vanuatu has already high rates of gender-based violence which serves to underpin women's exclusion from decision making, reinforces women's unpaid care roles and limit women mobility.

Women's substantial unpaid care roles, early marriage and childbearing require agriculture and fisheries activities adapted to suit their needs. High levels of exclusion that people with disability experience also require targeted work to build skills and resources of people with disability, as well as shift perceptions of disability and inclusion amongst community leaders.

## 5.3. Determining community vulnerability to climate change

Vanuatu leads the world disaster risk index as the country with the highest disaster risk score of 49.74, indicating it is the most highly exposed nation to natural hazard driven disasters (World Risk Report 2020). The population of Vanuatu (272,000 people (GoV 2016)) is concentrated in the coastal zone and are therefore highly exposed to climate extremes and change. Subsistence agriculture and fisheries are particularly exposed to both land-based and marine events. Therefore, the agriculture and fisheries sectors in coastal areas, which provide food for approximately 80% of rural communities, will be particularly vulnerable to climate change.

The risk of climate change impacts is a function of the incidence of climate hazards, exposure and vulnerability, countered by the adaptive capacity of a species, ecosystem or population. Sensitivity of the vulnerability is determined by the physical, social, economic and cultural characteristics of a species or community and their responses to change and thresholds. Vanuatu communities will be affected differently by a similar hazard depending on the specific location and characteristics of each community. Adaptive capacity refers to the ability of a species, ecosystem or population to anticipate and manage the impacts of climate change and continue to have improved outcomes in the new realities.

In addition to Vanuatu's biophysical characteristics, socio-economic conditions such as low-income, social stratification and marginalization, and reliance on subsistence agriculture and fisheries for food security and livelihoods further limit people's adaptive capacity and contribute

to the country's climate vulnerability. Community and household structures and cultural practices can result in higher vulnerability among some groups – particularly women, children, people living with a disability and less abled or disabled. These groups, and people under-represented in decision-making, suffer an adaptation deficit. That is, high levels of *exposure* to frequent *hazards* and insecure access to key services that undermines *adaptive capacity* and thus increases *vulnerability* (and reduces *resilience*). The vulnerability of local communities is reflected in their experience recovering from TC Pam and TC Harold, two category 5 cyclones that devasted Vanuatu in 2015 and 2020, respectively. The National Disaster Management Office (NDMO) estimates it will take years for the most affected communities to fully recover if no other major setbacks occur. As noted, climate change projections for Vanuatu show a trend towards increasing frequency of extreme rainfall events, an increase in the intensity of tropical storms and cyclone, continuing sea level rise and ocean acidification, and increases in the intensity and duration of heatwaves across the country. The likelihood that communities significantly affected by TC Pam and TC Harold will not experience another major disaster event in any given five-year period is diminishing. A notable example are those communities on the islands of Pentecost and Ambrym severely impacted by both TC Pam and TC Harold. This effectively means some communities may never fully recover from these or future events. Unaddressed, these impacts will erode development gains, entrench the cycle of climate vulnerability, and place more lives and livelihoods at risk.

The project has the aspiration to target the most vulnerable rural communities in Vanuatu to address their climate vulnerabilities and build resilience, at the spatial scale of Area Councils. The goal is to directly reach 90,157 people (33% of the total population or 43% of the rural population) and through government upscaling, indirectly reaching a further 110,000 people (40% of the total population or 52% of the rural population). The Area Councils (and municipalities) in Vanuatu typically cover several villages or sometimes entire (small) islands that represent a range of biophysical and socio-economic conditions. To select beneficiaries, the design phase applied a semi-quantitative method that follows the IPCC structured framework (see **Annex 23** for detailed method), partially validated through community consultations, to assess all Area Councils in Vanuatu and rank their vulnerability to climate change.

The design team undertook a national vulnerability assessment as part of the feasibility study which drew on available data for climate and non-climate hazards, and knowledge on which community-level factors increase sensitivities or undermine adaptive capacity. Stakeholder consultation, including during the Validation Workshop also provided data for this process (**Section 6**). Using this knowledge, the assessment applied indicators for hazard (climate and non-climate hazards), exposure (shoreline geomorphology, topography/elevation), sensitivity (population density and growth, dependence on fishing for food, dependence of crops for food, dependence on natural resources for income, condition of habitats, remoteness/accessibility) and adaptive capacity (access to services, education levels, health index). Notably, indicators of climate change vulnerability are not all related to climate but are socio-ecological factors that influence the sensitivity of communities to climate change and their ability to adapt to future risks, uncertainty and change. Scoring criteria (low, medium or high) were developed for each indicator and data were reviewed by sector specialists with extensive experience of the natural environments and community conditions in Vanuatu.

The results provide a relative ranking of all 71 Area Councils in Vanuatu from highest to lowest vulnerability to climate change, provided by Province (**Table 8** and **Figure 22**), to enable the project to identify target beneficiaries (i.e., those that are most vulnerable and marginalised) and adaptation options that specifically address the drivers of vulnerability. The results

identified the main drivers (or sources) of vulnerability, which were used to identify a suite of adaptation actions that specifically address these sources of vulnerability and provide a ‘menu’ or package of adaptations for implementation (see **Section 7.2.2**). During project implementation, suitable adaptation actions will be selected from this ’menu’ (adaptation package) and implemented in partnership with beneficiary communities to minimise vulnerability and build resilience to climate change.

***Table 8.*** *Relative ranking of climate change vulnerability of Area Councils in Vanuatu, and identification of drivers (sources) of vulnerability for each Area Council. Results are presented by Province from highest to lowest vulnerability, and the national ranking for each Area Council is also shown. Sites visited during the design phase to collect community data and validate results are shown in italics*

| National Ranking | AREA COUNCIL | Historic exposure to climate hazards | Exposed shoreline/limited coastal protection | High population density and/or growth | High dependence on coastal fisheries for food | High dependence on crops for food | High dependence on natural resources for income | Unprotected drinking water source | Poor habitat condition* | Remoteness/isolated | Limited access to services | Below national average literacy/education level | Compromised health index/health facilities | Households below NPL (low income) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Exposure | | Sensitivity | | | | | | | Adaptive Capacity | | | |
| 1 | Aneityum | | ■ | ■ | | ■ | | | | ■ | | ■ | | |
| 2 | West Santo | ■ | ■ | | ■ | | ■ | ■ | | ■ | ■ | ■ | ■ | |
| 3 | Torres | ■ | ■ | | ■ | ■ | | ■ | | ■ | ■ | | ■ | |
| 4 | Makira/Mataso | | | ■ | ■ | ■ | ■ | | | ■ | | | ■ | |
| 5 | Ureparapara | | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ |
| 6 | Big Bay Coastal Santo (nee North Santo) | | | | | ■ | ■ | ■ | | ■ | ■ | ■ | | |
| 7 | Big Bay Inland (nee North Santo) | | ■ | | | ■ | ■ | ■ | | ■ | ■ | ■ | | |
| 8 | South West Tanna | | | ■ | | ■ | ■ | | | | | ■ | | ■ |
| 9 | Emae | | ■ | ■ | ■ | | | | | ■ | | | ■ | ■ |
| 10 | Merelava (incl. Mérig) | | | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | | ■ |
| 11 | North West Santo | | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ | | ■ | |
| 12 | Aniwa | | | ■ | ■ | ■ | | | | | | ■ | | |
| 13 | Futuna | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | | |
| 14 | Yarsu (nee South Epi) | | | ■ | | ■ | ■ | | | | ■ | | | |
| 15 | Mota | | | ■ | | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| 16 | West Malo | | ■ | ■ | | ■ | | | | | | | ■ | |
| 17 | South Santo 1 | ■ | ■ | | | ■ | | ■ | | | | ■ | | |
| 18 | South Santo 2 | ■ | ■ | | | ■ | | ■ | | | | ■ | | |
| 19 | Central Tanna (nee Middle Bush) | | | ■ | | ■ | | ■ | | | | ■ | | |
| 20 | Motalava (incl. Rah, Reef) | | | ■ | | ■ | ■ | | | | ■ | | | ■ |
| 21 | North Ambrym | ■ | | | | ■ | ■ | | | | | | ■ | |
| 22 | East Tanna (nee Whitesands) | ■ | | ■ | | ■ | | ■ | | | | ■ | | |
| 23 | Central Pentecost 1 | ■ | | ■ | | | | | | | | ■ | | |
| 24 | South Pentecost | ■ | | ■ | | | ■ | ■ | | | | ■ | | |
| 25 | North East Malekula | | | ■ | | | | ■ | | | | | | ■ |
| 26 | Varsu | | | | | ■ | ■ | | | | | | | |
| 27 | North West Malekula | | | ■ | | ■ | | ■ | | | | | | |
| 28 | South East Ambrym | ■ | | | | ■ | ■ | | | | | | ■ | |
| 29 | Vermaul | | ■ | | | | ■ | | | | | | ■ | |
| 30 | South Tanna | | | ■ | ■ | ■ | | | | | | ■ | | ■ |
| 31 | West Tanna | | | ■ | | | | | | | | ■ | ■ | ■ |
| 32 | Nguna/Pele | | ■ | ■ | | | | | | | | | ■ | ■ |
| 33 | South Maewo | | | | ■ | | ■ | | | ■ | | | ■ | |
| 34 | Tongariki/Buninga | | | ■ | ■ | | | | | ■ | | | ■ | ■ |
| 35 | Central Pentecost 2 | ■ | | ■ | | ■ | ■ | | | | | | | |
| 36 | Paama | | | ■ | | ■ | | | | | | | ■ | |
| 37 | Tongoa | | | ■ | | ■ | ■ | | | | | | ■ | ■ |
| 38 | Central Malekula | ■ | | | | | | | | | | | | |
| 39 | North Maewo | | ■ | | | ■ | | | | | | ■ | | |
| 40 | South West Malekula | | ■ | | | | | | | | | | | |
| 41 | South East Malekula | | | ■ | ■ | | | ■ | | | | | | |
| 42 | South Erromango | | | | ■ | ■ | | ■ | | | | | ■ | |
| 43 | East Gaua | | | ■ | ■ | ■ | ■ | | | | | ■ | | |
| 44 | West Gaua | | | ■ | ■ | ■ | ■ | | | | | ■ | | |
| 45 | North East Tanna | | | ■ | | ■ | ■ | ■ | | | | ■ | ■ | |
| 46 | North Tanna | | | ■ | | ■ | ■ | ■ | | | | ■ | ■ | |
| 47 | West Ambae | | | ■ | | | | ■ | | | | | | |
| 48 | East Vanua Lava | | | ■ | ■ | | | | | | | | | |
| 49 | West Vanua Lava | | | ■ | ■ | | | | | | | | | |
| 50 | West Ambrym | | | | | ■ | | | | | | | | |
| 51 | North Pentecost | | | ■ | | | ■ | | | | | | | |
| 52 | North Erromango | | ■ | | ■ | ■ | | ■ | | | | | ■ | |
| 53 | North Ambae | | | ■ | | | | | | | | | | |
| 54 | South Malekula | | ■ | | | | ■ | | | | | | | |
| 55 | South Ambae | | | | | | | | | | | | | |
| 56 | Vermali | | | ■ | | | | | | | | | ■ | |
| 57 | Ifira | | ■ | ■ | | | | | ■ | | | | | ■ |
| 58 | East Efate (nee Eton) | | ■ | ■ | | | ■ | | | | | | ■ | |
| 59 | East Malo/Malokilikili | | ■ | | | ■ | ■ | | | | | | | |
| 60 | East Ambae | | | ■ | | | | | | | | | ■ | |
| 61 | Eratap | | ■ | ■ | | | | | ■ | | | | ■ | |
| 62 | North Efate | | | ■ | | | | | | | | | ■ | |
| 63 | Canal - Fanafo | | | ■ | | ■ | | | | | | | | |
| 64 | Emau | | | ■ | | | | | | | | | | |
| 65 | Mele | | ■ | ■ | | | | | | | | | | |
| 66 | Erakor | | | ■ | | | | | | | | | | |
| 67 | East Santo | | | | | ■ | | | | | | | | |
| 68 | North West Efate (nee Malorua) | | | ■ | | | | ■ | | | | | | |
| 69 | South East Santo | | ■ | ■ | | | | | | | | | | |
| 70 | Tanvasoko | | ■ | ■ | | | | | ■ | | | | | |
| 71 | Pango | | ■ | ■ | | | | | | | | | | |

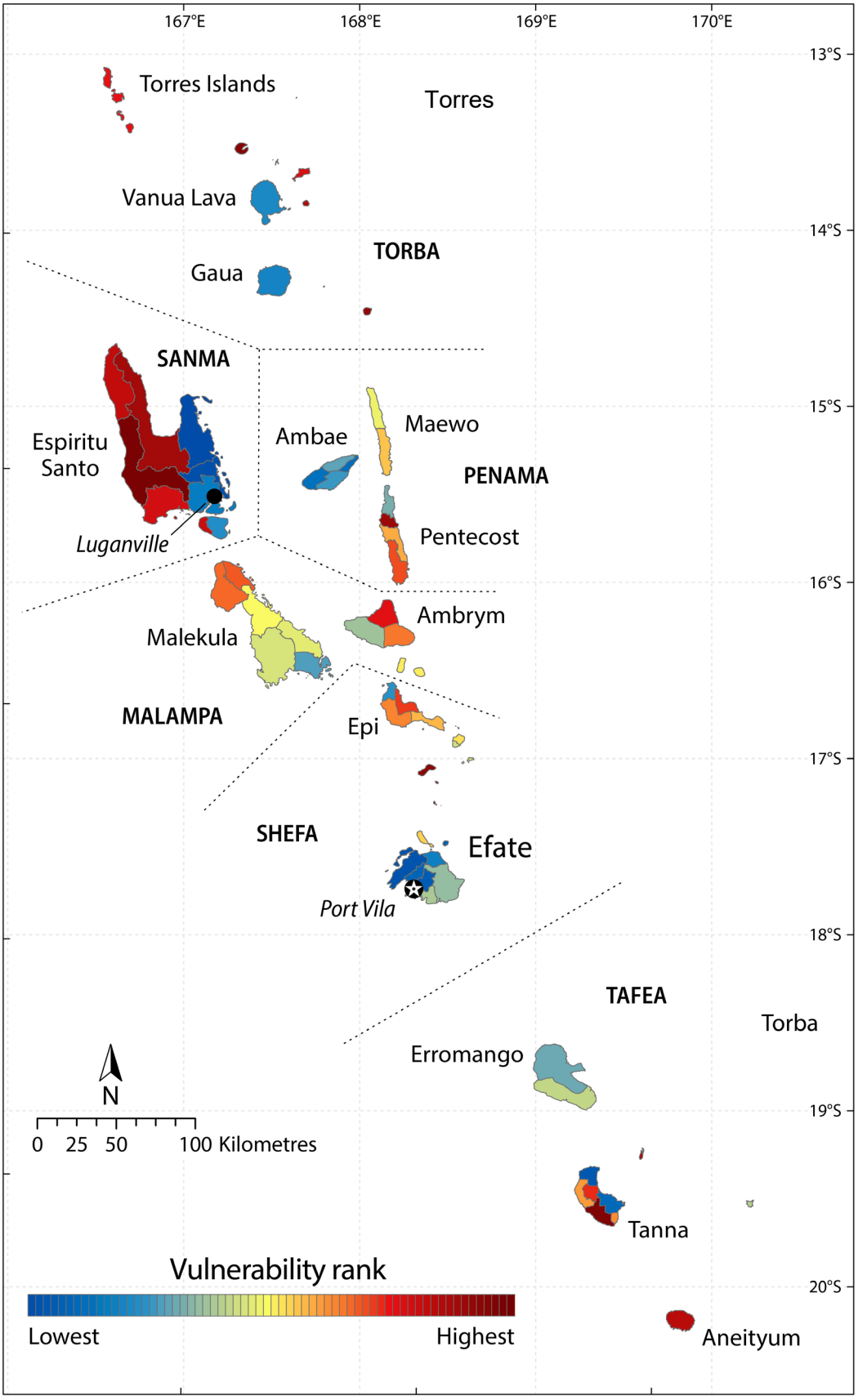



***Figure 22**. Map of the relative climate change vulnerability of all Area Councils nationally, with dark red (1) being highest vulnerability and dark blue (64) being lowest vulnerability*

# 6. Adaptation gaps

Understanding the main drivers of vulnerability for communities in each Area Council enabled an understanding of the adaptation gaps that currently exist in Vanuatu.

The existing gaps in climate change adaptation work were determined by taking the community vulnerability and drivers (**Section 5.3**) and then assessing them against the existing and planned projects being undertaken in Vanuatu (**Section 3.4**). Gaps that remain or that have been highlighted by these projects are summarised in **Table 9**.

***Table 9.*** *Adaptation gaps*

| Sector | Gaps |
|---|---|
| Agriculture/ forest resources | • Limited knowledge and farming skills to improve crop growing techniques<br>• Currently there is a lack of knowledge and capacity building training in addressing crop pest and diseases attacking food crops and cash crops<br>• Lack of agriculture extension officers in each area council to deliver services to communities<br>• Continuous deforestation and forest degradation due to lack of planning and controlling gardening areas, free grazing of livestock, invasive species<br>• Continuous growth of invasive species (*Merremia peltata*) damaging forest<br>• Limited activities in addressing soil degradation and erosion<br>• Limited upland management climate change adaptation plans for the communities<br>• Decreasing crop yield due to low soil fertility, management practices, ENSO events, pests and diseases<br>• Currently no/few agro-forestry/forestry initiatives in the communities |
| Coastal Resources/ Fisheries | • Limited local activities at scale to address overfished coastal resources<br>• Lack of information on coastal fisheries status and subsistence catch<br>• Community coastal resource planning very resource intensive |
| Water/ DRR | • Cyclone shelters are inadequate (both in quantity and structural integrity)<br>• An evaluation of the structural integrity of safe houses and an evacuation plan for communities is required<br>• Local planning for DRR and emergency evacuation is inadequate<br>• Communications infrastructure for EWS is inadequate<br>• There is limited use of traditional knowledge for EWS<br>• Water infrastructure/ management to allow for sufficient water availability is inadequate (water quality and quantity a concern in most consulted communities)<br>• There is a need to improve agricultural resilience including pre storm preparation and preservation of food (after a cyclone it takes 4-12 months to recover food security) |
| Community infrastructure and cultural systems | • Limited funding available from government for DRR or CBA activities<br>• Awareness/ Knowledge for adaptive capacity is currently lacking<br>• Little use of traditional knowledge. Undervalued importance of traditional knowledge in school curriculum. Increasing the use of traditional knowledge can support increased resilience<br>• Low reported awareness about DRR, Climate Impacts and Adaptation<br>• Assessment of adequacy of infrastructure is needed at the local level<br>• Disparity between projects, e.g., some communities lack functioning disaster committee. There is a need for capacity building and training<br>• Remoteness of communities |

It should be noted that during GCF's initial review of the concept note in 2020 it was agreed that due to a need to narrow the sectoral focus of the VCCRP project and the existing work being undertaken in the water sector, water security is not a priority for the VCCRP project. While the water sector is not a primary focus of the VCCRP, existing and planned projects in this sector (see **Table 1**) will be considered to enable coordination where relevant and deliver co-benefits. Where it has been identified as a driver of vulnerability to climate change, natural-based solutions to promote water security and partnerships with other relevant initiatives will be implemented.

A suite of possible adaptation actions to fill these gaps and reduce the drivers of vulnerability that were identified during the national vulnerability assessment (see **Annex 23** for full results) was compiled based on specialist advice, community feedback, and review of lessons from existing projects in Vanuatu and more broadly in the Pacific (**Table 10**). These adaptations include the full suite of actions that were identified to minimise the specific drivers of climate change vulnerability, and include actions that are outside the scope of VCCRP that may be implemented by complementary projects as co-benefits.

***Table 10.*** *Identified adaption actions to minimise climate change vulnerability in Vanuatu. The full suite of adaptations includes those outside the scope of VCCRP (in grey) that may be implemented by complementary projects or be achieved as co-benefits of VCCRP activities*

<table>
<tr><th colspan="10">ADAPTATION PACKAGE: REDUCING DRIVERS OF VULNERABILITY TO CLIMATE CHANGE HAZARDS AND IMPACTS</th></tr>
<tr><th colspan="2">REDUCING EXPOSURE</th><th colspan="6">MINIMISING VULNERABILITY</th><th colspan="2">BUILDING ADAPTIVE CAPACITY</th></tr>
<tr><th>Historic exposure to climate hazards</th><th>Exposed shoreline /limited coastal protection</th><th>High dependence on coastal fisheries for food</th><th>High dependence on crops for food</th><th>High dependence on natural resources for income</th><th>Unprotected drinking water source</th><th>Poor habitat condition (upland forests, marine and coastal)</th><th>Remoteness / isolated</th><th>Limited access to services, including transport infrastructure, education and health facilities</th><th>Social inequities (gender, income, age, disability)</th></tr>
<tr><td>Strengthen local early warning systems, incorporating traditional knowledge</td><td>Support local CDCCC planning to incorporate coastal protection</td><td>Protect and rehabilitate habitats that support fisheries</td><td>Introduce climate-resilient native food crop varieties</td><td>Introduce climate-resilient cash crop varieties</td><td colspan="2">Reforestation of damaged forests and water catchments using native species</td><td>Increase connectivity and access to national media/ radio</td><td>Support local authorities to monitor and evaluate national delivery of essential services at local level</td><td>Include GESI issues in local planning processes</td></tr>
<tr><td colspan="2">Develop inundation/ erosion risk actions to include into local planning and budgets</td><td>Prohibit damaging fishing practices (e.g. gears that target juvenile fish or damage habitats)</td><td colspan="2">Improve agriculture methods to minimise erosion caused by agricultural production on slopes (e.g. relocate farming areas away from flood-prone land and use contour planting)</td><td>Protection of water catchment areas</td><td>Protect and rehabilitate degraded land and sea habitats using nature-based solutions</td><td>Participate in government planning on transport and infrastructure for remote communities</td><td>Knowledge exchange between communities and promotion of traditional practices</td><td>Develop adaptation processes with a focus on children, youth and people with disabilities</td></tr>
<tr><td>Community-led use of standards for locally-appropriate climate-resilient community planning and infrastructure</td><td>Strengthen coastal protection barriers through local nature-based solutions (e.g. mangrove planting)</td><td>Target underexploited species, especially those expected to benefit from climate change (e.g. small pelagic species)</td><td>Community, school and home-based nutrition awareness and kitchen gardens</td><td>Diversify to include new commodities and value-add products that deliver greater income</td><td>Work with WASH projects to secure water supply</td><td>Address sources of erosion and pollution in coastal habitats using nature-based solutions</td><td colspan="3">Provide input to local lessons, emerging themes and best practices to ensure planning is informed by local needs and local actions support national objectives</td></tr>
<tr><td colspan="2">Support local authorities and DoCC to monitor and evaluate national CC & DRR policies at local level</td><td>Divert effort away from overfished resources (e.g. reef fish) to target</td><td colspan="2">Use traditional methods for planting (e.g. seasonal planting calendar) and growing (e.g. natural compost)</td><td>Community-based aquifer recharge using nature-</td><td>Forestry management and extending local resource</td><td></td><td></td><td>Establish gender-balance on CDCCCs and</td></tr>
</table>

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | nearshore pelagic fish or fish farming | | based solutions | tabu to forest resources | | | include youth representation |
| Access and circulate local language DRR materials at training and awareness activities | | Diversify to new commodities and value-add products with greater nutrition | Use suitable companion inter-cropping and cover crops (e.g. muccuna) and mulching to promote soil health and minimise irrigation | Community-led education and awareness on catchment functions including water security and disaster risk reduction | | | | |
| Build community, CDCCC and provincial capacity to support Community Adaptation Plans | | Community-led sustainable coastal resource management and monitoring | Develop land use plans that incorporate climate change projections and climate-resilient agricultural practices | Participate in waste management awareness and planning to protect water supplies and marine resources | | | | |
| Support enhanced cyclone recovery by planting fast growing crops | | Community-led capacity development, implementation and governance of effective community tabu areas | Use agro-forestry practices to promote farming production, increase hard woods, source alternative cooking fuel and support healthy catchments and forests | | | | | |
| Include climate risk and resilience actions into local budgets to support year-round CDCCC role | | Implement primary community-based fisheries management | | | | | | |
| | | Introduction / scale up of local processing and preservation, including low-tech methods (solar air driers, smoking, pickling) and renewable technologies (solar PV) for refrigeration and freezing | | | | | | |

### *Community Survey Validation*

Participatory community consultation surveys were undertaken in eight communities in three provinces in December 2020 and January 2021 and included:

- Surveys to validate key natural resources and climate impacts;
- Consultations to confirm willingness and interest in implementing adaptation interventions and enhanced DRR;
- Consultations to identify key CCA, DRR and CIS needs; and
- Surveys to validate the main focus of committee/group (e.g., women's groups, environmental committees, CDCCCs), and issues faced.

The Area Councils consulted were:

- North West Santo (ranked 11$^{th}$ nationally and 3$^{rd}$ in Sanma Province),
- North Ambrym (ranked 15$^{th}$ nationally and 1$^{st}$ in Malampa Province), and
- Varsu (ranked 18$^{th}$ nationally and 2$^{nd}$ in Shefa Province).

These sites were selected based on national government feedback received during the design phase and builds on feedback received during the site selection for the VCAP2 project from government authorities. The sites also provide a representative sample of highly vulnerable communities (nationally and at a Provincial level), and a range of biophysical and socio-economic conditions.

The community surveys collected data that was used to validate the local context at these sites and the likely drivers of vulnerability and adaptation gaps (**Table 11**).

***Table 11.*** *Key climate impacts, sensitivities and adaptive capacity documented during community surveys*

| Sector | Observed impacts | Sensitivity | Adaptive Capacity |
|---|---|---|---|
| Agriculture/ forest resources | • Deforestation and forest degradation<br>• Coastal erosion<br>• Soil degradation and erosion in garden areas<br>• Landslide risk/ damage to access ways (from heavy rain, cyclones and earthquakes)<br>• Agricultural pests and diseases (moderate problem)<br>• Food insecurity caused by cyclones, pests and diseases, drought and volcanic ash<br>• Insufficient agricultural production due to climate change, poor farming practices, crop management, lack of simple tools (e.g. simple machinery), ENSO events (drought/ intense rainfall) and low soil fertility<br>• Increased forest fire risk from slash and burn agriculture<br>• Negative impact on human health and nutrition | • Powerful cyclones (Category 5) destroying forest, lack of planning and controlling gardening, invasive species, increased population that put pressure on land and forest, need for timber to build houses, lack of defining garden boundaries<br>• Less forest curtains near the coast due to infrastructure (road settlements)<br>• Climate change (intense rainfall), lack of application of soil conservation measures, lack of knowledge in soil management, short fallow periods (1-3 years for some areas), extreme weather events<br>• Lack of capacity and knowledge in controlling pests and diseases<br>• Cooking fuel dependent on fallen and live trees<br>• Current production methods result in 4-12 months to recover food security after a cyclone<br>• Recovered/ salvaged agricultural produce is sufficient for only 1-4 weeks after a cyclone<br>• Increased pressure on local resources included reduced fallow times for agricultural production areas<br>• Gardens placed on steep slopes | • Insufficient access to forest resources (reported across most communities)<br>• Capacity to develop/ define garden boundaries is lacking<br>• There are leguminous crops and trees that exist within the communities but communities lack capacity to use it in farming systems to improve soil fertility<br>• Traditional knowledge in controlling pests and diseases exists within the community but sharing this traditional knowledge to other community members is difficult<br>• Pre-existing culture of tabus to protect key natural resources (while usually marine oriented, there are cases of tabus to protect and manage forest resources and catchments (i.e. West Santo) however, coverage and effectiveness is variable<br>• No management of use of tabus in upper catchment<br>• Little diversification of cash crops (i.e. no or little coffee, cacao, pepper or vanilla produced)<br>• Income for disaster recovery |
| Coastal Resources/ Fisheries | • Declines in the health of coral reef and seagrass habitats thought to be due to cyclones and sedimentation from runoff<br>• Mass die-off of nearshore crabs due to heatwave event<br>• The size of fish in the catch has noticeably decreased in recent years. Of the 28 fish catch surveys completed the mean size was very small for all species groups ranging from 11.6 cm (siko) – 21.6 cm (strong skin). A high proportion of the | • Many communities are highly dependent on marine resources for food and/or income.<br>• Current fishing practices are destructive to fish and invertebrate populations (e.g. juvenile fish are selectively harvested)<br>• Nets with very small mesh sizes and very small hook sizes are routinely used to target reef fish. Spearfishing at night was also identified in at least one village<br>• Non-compliance with existing tabu areas | • Viable alternative fishery species may be under-utilised in some areas (wild and farmed), with very few villages surveyed currently targeting mangru, and no village farming tilapia.<br>• Very few villages have vessels to access FADs<br>• Fish and invertebrate populations are likely to be in an overfished state<br>• Marine resource management is either lacking or limited<br>• Capacity to effectively manage local marine resources appears to be lacking |

| | | | |
|---|---|---|---|
| | catches were of juvenile fish (range: 47-94%), with many individual fish harvested likely to be only several weeks old (~2.5 cm)<br>• Achieving the same catch takes longer than it used to<br>• Turtle consumption is reported to be high in some villages. | | • Scope for communities to use preservation methods for longer storage of fish products<br>• Alternative methods for utilising products from marine resource are underutilised |
| Water/ DRR | • Drought reducing water availability (more frequent occurrence of drought)<br>• Sedimentation of water resources with heavy rain/cyclones | • Need for additional WASH training<br>• Unsecured water sources<br>• Toilets contaminating water supplies<br>• Lack of CDCCC (some communities) | • Proven success with community-based disaster risk management activities following support and capacity building<br>• High level of interest in learning about disaster risks and adaptation actions and combined with low level of reported awareness<br>• Interest in awareness sessions, leadership, and resource management training<br>• Existence of functioning CDCCC |
| Community infrastructure and cultural systems | • Disasters delaying or causing ceremonies (especially weddings) to be cancelled | • Poorly built infrastructure<br>• Use of non-local building materials | • Knowledge and use of traditional medicine (both in communities evaluate their clinic access as being poor and good)<br>• Knowledge and use of traditional building methods |

# 7. How will VCCRP reduce climate change vulnerability?

## 7.1. Theory of Change

The VCCRP theory of change follows the Vanuatu Community Resilience Framework (Pritchard 2018). The Framework provides an overarching structure that focuses on meeting eight pre-conditions for climate-resilience and supports the closing of existing adaptation deficits (Burton 2004):

1. All community members have their basic needs met;
2. Access to a diverse, climate-resilient, set of livelihoods strategies;
3. Ability to engage in fair, inclusive and forward-looking decision-making processes;
4. Access to, and ability to utilise, traditional and scientific climate information;
5. Ability to innovate and take risks, particularly regarding livelihoods;
6. Increased understanding of the changing context of shocks and stresses, and ability to take action to reduce risks;
7. Strong in-community and external networks to share and draw on knowledge, resources and ideas; and
8. Connected government at all levels that listens and is responsive to community needs, is innovative, and has strong leadership that is transparent and accountable.

The Vanuatu Community Resilience Framework is a modified version of the Vanuatu Resilience Framework, developed under a previous community-based adaptation project (Pritchard 2018). This in turn was a modified version of the Local Adaptive Capacity Framework developed by government, NGOs and academic partners under the Africa Climate Change Resilience Alliance program (ACCRA 2011). The components of the framework are the base pre-conditions for climate-resilient communities in Vanuatu. The pre-conditions are all inextricability interlinked and mutually reinforcing. The VCCRP will work to help ensure these pre-conditions are met as part of its approach to building community resilience via the adaptation packages approach (Component 2), along with increasing access to information, building understanding and supporting local level adaptation planning (Component 1), and ensuring a strong local-provincial-national connection and two-way flow of climate-relevant information and knowledge (Component 3).

The project's goal statement is that **IF** vulnerable remote and rural communities in Vanuatu access and utilize locally-relevant climate information, integrate climate risks into community planning processes, and are supported to implement priority adaptation actions; **THEN** they will be more resilient to the impacts of increasing climate variability, extremes and change on their food security and livelihoods; **BECAUSE** their exposure and vulnerability to hazards will be reduced and their adaptive capacity increased.

The core climate problem the project seeks to address is that remote and rural communities in Vanuatu suffer an existing (and increasing) 'adaptation deficit' (high levels of exposure to frequent hazards and insecure access to key services undermines resilience). To address these deficits, the project will work to build local level adaptive capacity related to food security and livelihoods, based on a foundation of increased knowledge and understanding of climate change impacts, improved community-level adaptation planning, and enhanced national and sub-national government capacity to support priority adaptation actions.

The project utilises the IPCC's definition of adaptive capacity, as articulated in the *Third Assessment Report*: "*Adaptive capacity* is the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change. Enhancement of adaptive

capacity represents a practical means of coping with changes and uncertainties in climate, including variability and extremes. In this way, enhancement of adaptive capacity reduces vulnerabilities and promotes sustainable development."[10] The project's understanding of adaptive capacity, and its measurement, is further elaborated in *Annex 23*.

A suite of adaptation activities that address the main drivers of community vulnerability (identified through a national vulnerability assessment form the basis of action for communities. The development of an adaptation package (or menu) gives communities options to select the most appropriate and effective adaptations and provides certainty that GCF investments are addressing the main drivers of climate change vulnerability specific to the needs in each individual community.

Participatory stakeholder involvement during implementation will allow for a tailored set of adaptation actions to be selected from the adaptation package and local ownership, promoting long-term sustainability of the adaptation actions in each community. The focus on empowering communities to participate in and lead all stages of adaptation, from selection to implementation, and capacity building for government will build strong ownership and buy-in to the project by all beneficiaries and help the sustainability of the project.

The adaptation actions are designed to be implemented over the life of the six-year project and have flexibility to accommodate the specific climate change challenges and existing capacities within each community. Components of climate resilient agriculture and fisheries for food security can be scaled up as needed to suit the local context.

Adaptation activities have been developed considering structural disadvantages experienced by women, children and people living with a disability. This will ensure that sustainable climate resilient development pathways also promote social justice and equality in decision-making. The project will work through established local governance structures and will partner with local-level civil society organizations where available to maximize the appropriateness, ownership and sustainability of adaptation actions.

This approach will ensure Vanuatu can shift from a fragmented (non-standard) approach in some locations, to a coordinated spatially-inclusive and decentralized approach at all levels (government and community), with a focus on the most climate vulnerable communities. To assist this approach, the project will target Area Councils and apply an uptake scorecard to measure the level of effectiveness of adopted coordination mechanisms.

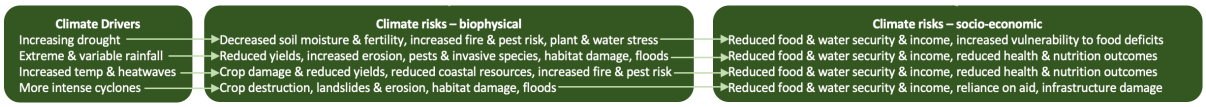
Vanuatu faces many barriers that prevent the country from adequately addressing climate change impacts without additional intervention. Vulnerability studies conducted for small island states, such as Vanuatu (Nurse et al 2014) show that the costs of overall infrastructure and adaptation activities is a significant proportion of GDP, and well beyond the financial means of a developing economy. In addition, baseline adaptive capacity is limited and is being further eroded by external factors such as fluctuating labour markets and population growth.

- Key barriers to effective and sustainable locally-led adaptation in Vanuatu identified during the project's design process include:
    - Institutional capacity gaps at local, sub-national and national levels which hamper effective adaptation planning processes and implementation of adaptation actions
    - Existing adaptation deficits (high exposure to frequent hazards and insecure access to services) impedes communities' ability to engage in activities and reduces project impact

[10] Smit et al (2001) Adaptation to climate change in the context of sustainable development and equity. In McCarthy et al (2001) Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the IPCC's Third Assessment Report, p.881. Available here.

- Low incentives for private sector entities to engage with remote rural communities to support increased market access and help diversify livelihoods

These socio-cultural-institutional barriers interact with the key climate change risks identified for targeted communities, which include direct biophysical impacts associated with climate drivers *and* flow-on socio-economic risks, including:




Combined, these risks and barriers are undermining the viability of traditional livelihoods and food security in highly climate vulnerable communities. This is particularly the case for the ecosystems and ecosystem services these communities are highly reliant on, and why building the resilience of natural systems (GCF Impact A4.0) is a critical component of the project. For the targeted communities, their livelihoods resilience (GCF Impact A1.0) and food security (GCF Impact A2.0) is inextricably interlinked with resilient and functioning ecosystems.

Ni-Vanuatu have historically adapted to variability in climate and ocean conditions and hold strong traditional knowledge. While traditional knowledge will be valuable in dealing with the projected longer-term changes in climate, it is not sufficient alone and will need to be supplemented by contemporary science and knowledge. While there is credible scientific information available about climate change in Vanuatu, applying the information to decision-making for sectors is not straightforward. There are barriers to application both in terms of the provision of information, such as technological limitations and isolation, and also in terms of education to enable this information to be appropriately incorporated into management. As a result, climate information services are potentially misinterpreted by the public during decision making, if they are used at all.

The project will help to shift communities from a purely traditional knowledge-based approach to resource management to one which incorporates climate science into traditional community-based decision-making. The project offers adaptation solutions building on local knowledge, skills and innovation in the use of local resources, with a particular focus on the key sectors that underpin food security and livelihoods in Vanuatu – fisheries and agriculture. Vulnerable communities and ecosystems will be more resilient to the impacts of climate change if science-based information can be coupled with traditional knowledge and relationships. Importantly, the project will focus on a bottom-up approach that empowers communities to drive the solutions and build on their existing capacity to ensure long-term sustainability in the project's approach to protecting the marine and agro-ecosystems. Project activities will promote behaviour changes among beneficiaries to help build resilient approaches to food security and livelihoods. Ongoing support from government and an increased local ability to access and effectively utilise future flows of climate finance will help ensure these changes are sustainable, as will supporting producers to access alternative livelihoods and income streams derived from more resilient agriculture and fisheries processes.

Immediate benefits will be achieved through community-level actions that address priority adaptation needs (including via increasing food security and diversifying livelihoods options), with a focus on addressing structural constraints to sustainable adaptation (specifically gender, age, disability, social inclusion and geography), increasing access to relevant and useable climate information and building adaptive governance systems. The actions will seek to reduce community vulnerability to current climate impacts. Medium-term benefits will be achieved through the participation and empowerment of communities and government by increasing knowledge and awareness of climate change and its effects, improving access to

and ability to use climate information and manage knowledge, and strengthening local governance systems and processes to increase individual and community resilience to anticipated near-term climate change impacts. Long-term benefits will be achieved by working at local, sub-national and national levels to increase adaptive capacity and the ability to make forward-looking decisions in the face of a range of climate futures. For communities to have sufficient adaptive capacity, local planning processes need to be climate-resilient, adaptation actions need to be costed and included in budgets, local-national linkages need to be strengthened and gender and social relations need to be transformed. The project theory of change is summarized in **Figure 23** below.

As noted above, the VCCRP will build on a range of previous adaptation projects implemented in Vanuatu, scaling up proven approaches to building climate resilient food security in remote and rural community and implementing innovative (for the context) approaches to food preservation and processing to minimise food losses and expand livelihoods options. The VCCRP will particularly build on the achievements of GCF FP035 – scaling out sector-relevant climate information services developed under FP035 to an additional 282 communities, creating a paradigm shift in climate-informed decision-making at the local level.

The project will also result in increases across a range of economic, social, environmental and gender co-benefits, including:

- Increasing the household incomes of rural communities through livelihoods diversification and increasing access to markets (co-benefit 1);
- Increasing broad community health outcomes by ensuring communities have more secure access to locally-available nutritious foods (co-benefit 2);
- Increasing access to education by ensuring fewer school days lost in the aftermath of extreme weather events through adaptation planning and enhanced DRR action (co-benefit 3);
- Increasing the sustainability of ecosystem services by reducing reliance on vulnerable resources (e.g. reef fish) as a primary food source in rural coastal communities (co-benefit 4);
- Increasing gender equality across all areas of community life – with a specific focus on ensuring women's voices are heard in climate-related decision-making forums and that the gendered nature of climate change impacts is a key component of all climate and development planning at community and province levels (co-benefit 5);
- Increasing social inclusion across all areas of community life – with a specific focus on ensuring voices of traditionally underrepresented groups (e.g. youth, people with a disability) are heard in climate-related decision-making forums (co-benefit 6).

For the project's theory of change to be realised, a number of assumptions need to hold. These include:

- Multiple project areas will not be affected simultaneously by significant climate-related disasters (category 5 cyclone, wave action, flood, drought, heatwave, etc.) during implementation and prior to key project activities being implemented;
- Relevant government departments will facilitate project access to national CIS and EWS systems (including FP035);
- Provincial and local government staff will engage in strengthened climate responsive planning, budgeting and shock responsive social protection systems and formalize support for local level adaptation action;
- Targeted communities demonstrate uptake of improved practices and see immediate and longer-term benefits from project participation;
- Locally-driven action will support management, rehabilitation and restoration of land use and fisheries measures considering climate risk to reduce exposure of farms and fisheries and increase the resilience of coastal and upland areas.

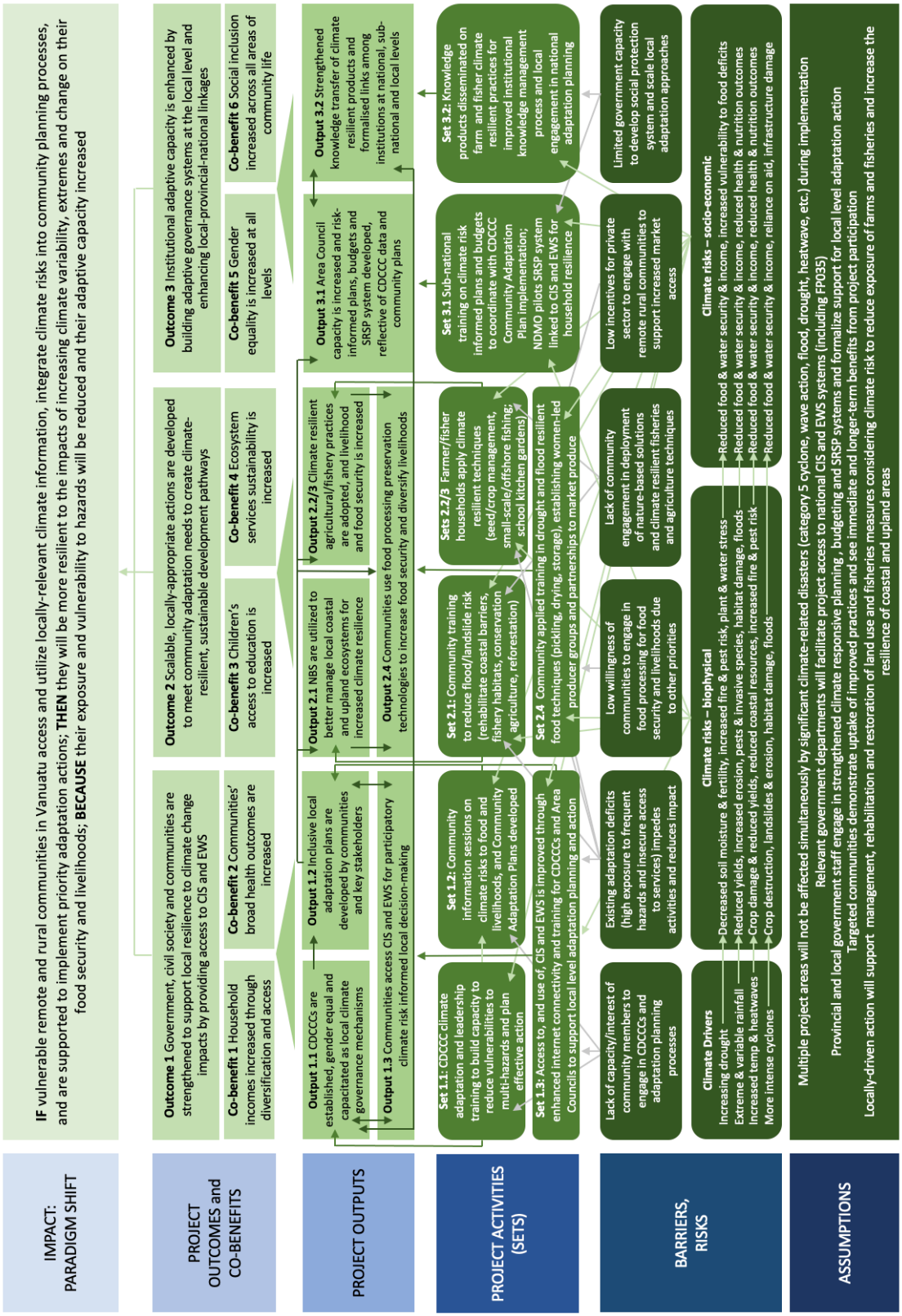



***Figure 23.*** *VCCRP Theory of Change*

It should be noted that:

- Given SCA's AE accreditation and ESS rating new major infrastructure works are not being considered in the scope of this project. The project will result in co-benefits to

infrastructure through more climate-informed local and sub-national planning processes.

- Water security is not a focus for this project to avoid duplication with existing and future projects (refer to **Section 6**). The project will coordinate with such projects to ensure there are co-benefits to the water sector through more climate-informed local and sub-national planning processes, nature-based solutions and via some agriculture activities.
- While this project does not focus on water security, it should be noted that catchment-related project activities designed to reduce risk from flooding, drought, and storm events are intended to also result in the co-benefits of increasing catchment health and increasing water availability.
- No specific health objective was set for this project. Health co-benefits will be delivered via ecological, food security and livelihood security outcomes.

## 7.2. VCCRP adaptation actions to address gaps

The adaptation gaps identified in **Section 6** can be grouped into three main components that will be addressed through this project.

### 7.2.1. Component overview

**Component 1: Government, civil society and communities are strengthened to support local resilience to climate change impacts, including by providing access to climate information and early warnings**

The resilience of rural communities hinges in large part on: their awareness of climate change impacts; preparedness to proactively act when extreme weather events (e.g., cyclones or drought) occur, based on reliable early warning systems; and to make long term development decisions based on participatory local adaptation plans that incorporate up-to-date climate information. This component builds community and institutional capacity at the local level, integrated into a provincial structure, to plan for and respond to the current and anticipated impacts of climate change.

**Component 2: Scalable, locally appropriate actions are implemented to meet community adaptation needs to create climate-resilient, sustainable development pathways**

Vulnerable communities can only achieve climate-resilient food systems and livelihoods if their primary production is made resilient to climate shocks. This component focuses on strengthening agriculture and fisheries systems to achieve food security and promoting economic activities through local value-chain improvements to diversify livelihoods options. This component is the core of the project and is built around the adaptation package menu which is flexible and scalable to community contexts.

**Component 3: Institutional adaptive capacity is enhanced by building adaptive governance systems at the local level and enhancing local-provincial-national linkages**

One of the key processes in adaptive governance is the feedback mechanism and integration of lessons learned into policies and procedures. Consideration of gender equality and social inclusion (GESI) procedures in local planning will ensure that all vulnerable local individuals, households and communities are included in creating climate-resilient livelihoods in the rural areas. This component is key to ensuring the sustainability of the adaptation packages approach, by embedding the system of community adaptation planning and prioritization of actions into national and provincial planning and budgeting cycles. The component will also build the capacity of provincial and national actors to access and effectively use future flows of climate finance.

Project activities are designed to respond to the needs and gaps identified through the community engagement and national vulnerability assessment (Annex 23), including: increasing local capacity to understand the implications of climate change, generate locally-appropriate adaptation plans, and access and utilize up-to-date climate information and actionable early warnings; building a flexible, scalable package of adaptation actions to enhance resilience (via nature-based solutions); increase food security and diversify livelihood structures; and support enhanced system capacity at all levels to support local adaptation sustainably. These three components and outputs and activities are detailed in **Table 12**, below. The relationship between outputs is shown in **Figure 24**.

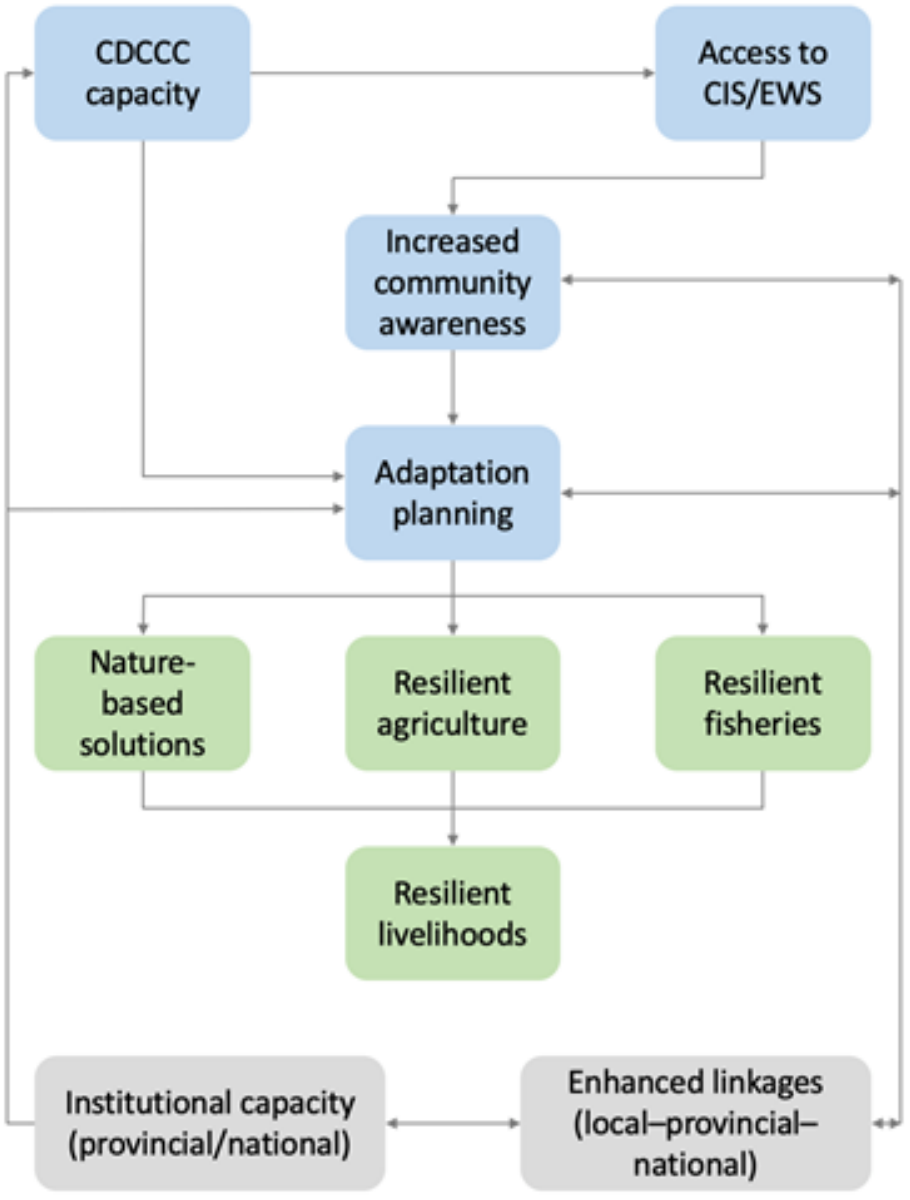



***Figure 24.*** *Components of the project and interrelationships between outputs*

A key risk with projects of this nature is not achieving community empowerment and buy-in to the process to enable its long-term sustainability and scalability. For this reason, the project has chosen to embed final community level decision making in the project implementation

stage. How each activity will be implemented and sustained in each target community will be defined and refined through stakeholder engagement and participatory processes in communities during implementation to ensure that all targeted communities can select the most locally-appropriate adaptations to reduce exposure, minimise sensitivity or support increased adaptive capacity and resilience. The application of the 'adaptation package' based on addressing the identified drivers of vulnerability will provide certainty that the GCF investments are focused on areas that meet the specific adaptation needs of each community and can be implemented at scale and sustainably. Stakeholder engagement during implementation will allow for local tailoring of the implementation and sustainability approach in each unique community. This will ensure that the project is aligned with the principles for locally-led adaptation[11] to which Save the Children is a signatory.

Each project output is designed to address one or more of the key climate change drivers identified as the most significant for the targeted communities. The links between specific climate drivers and VCCRP adaptation package responses are outlined in **Figure 25**. These links are further elaborated in the detailed activity descriptions in **Table 12**.

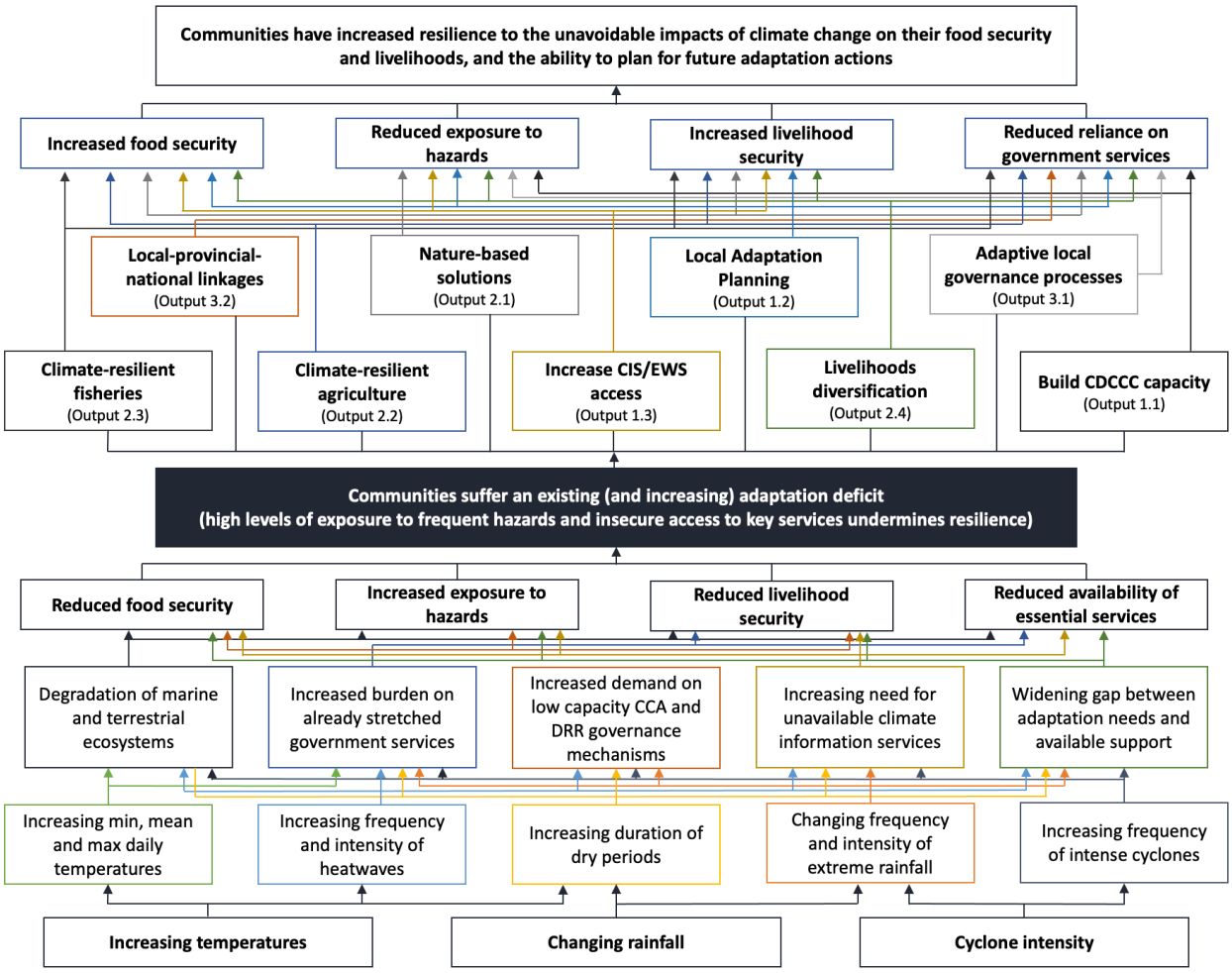



***Figure 25.*** *Impact and response chains for each climate driver and project output*

[11] See https://www.iied.org/principles-for-locally-led-adaptation

### 7.2.2. Adaptation packages – approach and content

The principal approach of the VCCRP is the delivery of adaptation actions at the local level in 282 communities in 29 of the most climate-vulnerable remote and rural Area Councils across all six of Vanuatu's provinces.

The core intervention strategy of the project is delivery of the adaptation packages under Component 2. Each package is a suite of adaptation activities that address the main drivers of community vulnerability (globally identified through a national vulnerability assessment and aligned with the resilience framework, finetuned through community consultations; see **Annex 23**). The development of a specific adaptation package gives communities options to select the most appropriate and effective adaptations and provides certainty that GCF investments are addressing the main drivers of climate vulnerability specific to the needs of each individual community. Activities in the adaptation package are designed to be modular and scalable. Specific activities can be increased, decreased or removed, depending on community circumstances. This makes the package approach tailored and highly transferable to the remaining communities in Vanuatu as well as to other contexts.

Participatory stakeholder involvement during implementation will allow for a tailored set of adaptation actions to be selected from the adaptation package and increased local ownership, promoting long-term sustainability of the adaptation actions in each community. The focus on empowering communities to participate in and lead all stages of adaptation, from selection to implementation to operation and maintenance, and capacity building for government, will build strong ownership and buy-in to the project by all beneficiaries and help the sustainability of the implemented actions.

The adaptation actions are designed to be implemented over the life of the six-year project and have flexibility to accommodate the specific climate change challenges and existing capacities within each community. Components of natural resource management and climate resilient agriculture and fisheries for food security and livelihoods can be scaled up as needed to suit the local context.

Adaptation activities have been developed considering structural disadvantages experienced by women, children and people living with a disability. This will ensure that sustainable climate resilient development pathways also promote social justice and equality in decision-making. The project will work through established local governance structures and will partner with local-level civil society organizations where available to maximize the appropriateness, ownership and sustainability of adaptation actions.

The Adaptation Package is made up of a menu of actions that fall under four broad community sectors:

1. Increasing the resilience of local natural resources upon which the local communities depend to climate change impacts using nature-based solutions
2. Climate-resilient small-scale agriculture for food security and livelihoods
3. Climate-resilient artisanal fisheries for food security and livelihoods
4. Climate-resilient food processing and preservation to support food security and diversification of livelihoods options

The overarching package and its components are outlined below (**Figure 26**), including the linkages between actions.

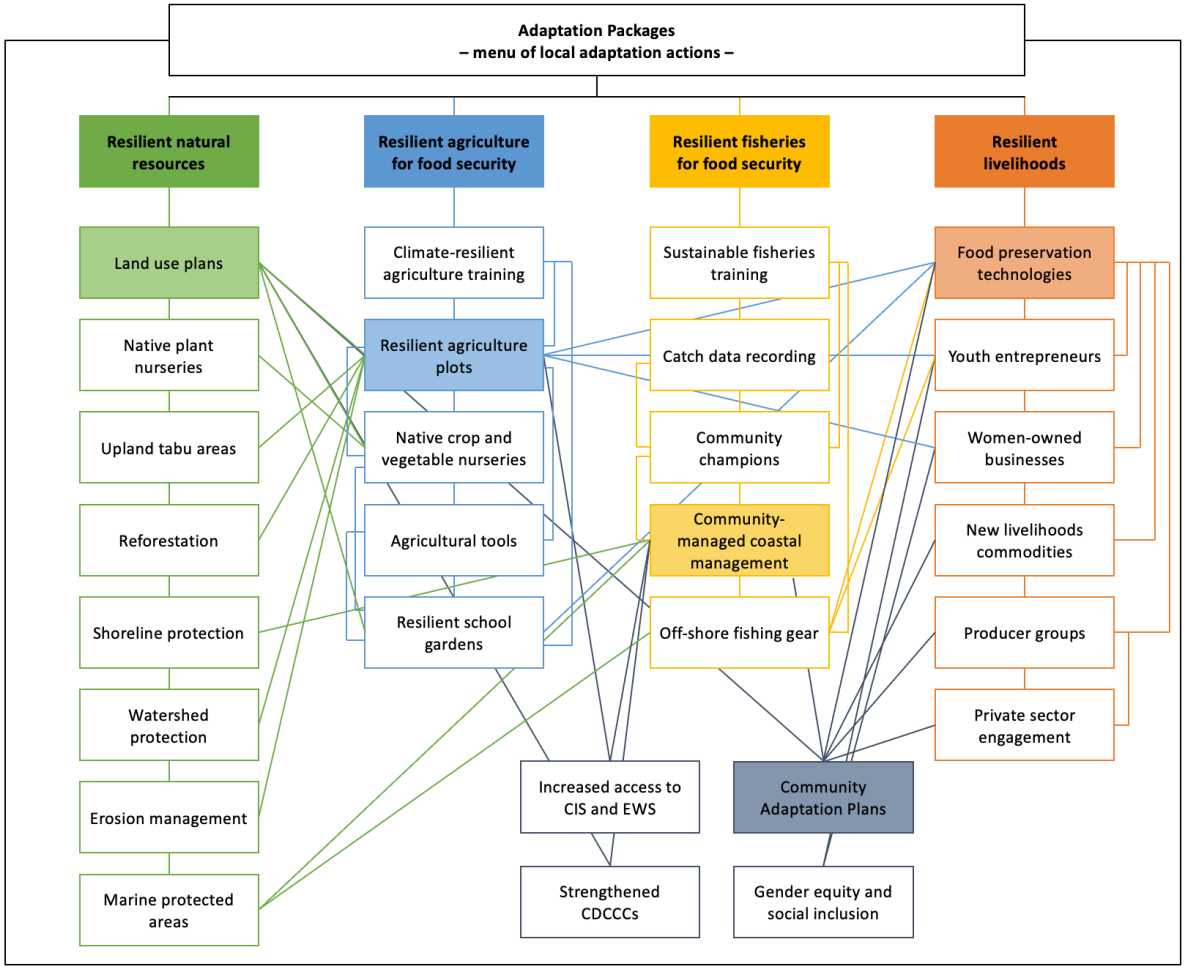



***Figure 26.*** *The VCCRP Adaptation Package menu showing interlinkages between actions*

#### 7.2.2.1. Climate-resilient natural resources

Climate change impacts on natural resources that support food systems and livelihoods vary by location and over time and will, therefore, affect communities differently. Actions under this sector will support communities to build the resilience of their local ecosystem to ensure it can continue to support food security and livelihoods as climate change impacts escalate.

Activities under this sector encompass:

- At least 254 land use plans being developed to guide community decision-making around the allocation of community resources
- 29 nurseries will be established to provide communities with native tree saplings to support re-forestation
- 500,000 tree seedlings and 500,000 culms of vetiver grass (*Chrysopogon zizanioides*) will be distributed to communities for reforestation, erosion control and shoreline protection
- At least 254 erosion management demonstration sites will be developed to highlight climate-resilient land management, and 29 erosion hotspots (one per Area Council) will be rehabilitated as fully realised examples

- A total of 11,600 hectares of agricultural and fisheries sites under better management, including:
    - 500 hectares of upland forest areas across 29 Area Councils will be protected via extended tabu areas
    - 200 hectares of forest area will be restored with native trees
    - 100 hectares of shoreline vegetation will be restored via replanting mangrove forests and invasive species management
    - 200 hectares of critical watershed areas protected through installation of micro-check dams and erosion control (including establishing living barriers)
    - 500 hectares of marine habitats will be protected by local conservation (tabu) areas

#### 7.2.2.2. Climate-resilient small-scale agriculture for food security and livelihoods

Climate change is affecting the success of traditional planting methods and ways of growing crops due to changes in local weather and climate, pests and disease. As climate change impacts escalate, food insecurity will increase. Building the resilience of local agriculture practice is critical to preventing further degradation of food security and building surpluses for processing and marketing.

Activities under this sector encompass:

- Training of 17,072 small-holder farmer households in climate-resilient agriculture techniques for application in household plots (assumed at 90% of households in the project sites)
- At least 254 demonstration sites of community-level climate-resilient agriculture
- 11,300 farmer households supported in the adoption of these more resilient agriculture methods and increasing their food security and livelihood options (assumed at 60% of households that received training)
- 29 crop and vegetable nurseries will be established to provide communities with seeds and saplings of climate resilient crop varieties
- Seeds and seedlings will be distributed to 15,175 farmer households (assumed at 80% of households that received training)
- Simple agricultural tools will be distributed to 15,175 farmer households to help increase their productivity (assumed at 80% of households that received training)
- Climate-resilient kitchen gardens will be established in schools across 29 Area Councils

#### 7.2.2.3. Climate-resilient artisanal fisheries for food security and livelihoods

Coastal and reef fisheries in Vanuatu are already impacted by current climate-related threats such as marine heatwave events, cyclones and terrestrial runoff. As climate change impacts escalate communities will see a significant reduction in the productivity of coastal resources, reducing fish populations and the catches needed to nourish households. Supporting communities to better manage the coastal zone and diversify their fish catch will help reduce pressure on coastal and reef ecosystems and supporting increased food security.

Activities under this sector will result in:

- Training of 11,734 artisanal fishers in effective coastal resource management to help protect coastal and reef ecosystems from further damage (assumed 80% of households in the coastal project sites reached)
- Catch data recording system established in at least 202 communities to support more sustainable decision-making (assumed 90% targeted coastal communities)
- At least 404 community champions identified and trained in local monitoring and management of coastal resources (assumed one female and one male champion in each of 90% of targeted coastal communities)
- 202 coastal communities establish community-led coastal resource management systems (assumed 90% targeted coastal communities)
- Off-reef fishing equipment distributed to 112 communities (assumes 50% targeted coastal communities)

#### 7.2.2.4. Climate-resilient food processing and preservation to support food security and diversification of livelihoods options

Climate change, including disaster events, impact on traditional crop and fisheries production and food-security, with reverberating impacts on local livelihoods and the availability of capital to purchase store-bought food stuffs. Food processing and preservation methods are key to climate-resilient food and livelihood systems, addressing yearly fluctuations in agricultural production and disasters such as cyclones, while facilitating commodity diversification. Food preservation and storage techniques will also extend the shelf-life of both agricultural and fisheries products, reducing food loss and improving quality, allowing transport to markets, particularly for remote communities that are isolated from market centres.

Activities under this sector will result in:

- 261 communities utilising climate-resilient food preservation techniques (assumed at 90% of targeted communities)
- Solar food dryers distributed to 261 communities for use in preserving surplus produce and fish for food security and delivery to markets (assumes 90% of targeted communities)
- Solar-powered freezers distributed to 261 communities for storing excess fish catch and produce for food security (assumes 90% of targeted communities)
- Households in at least 140 communities utilising salting and pickling for food preservation and marketing (assumed at 50% of targeted communities)
- New livelihoods commodities (dried fruits, dried nuts, smoked fish, shell crafting, copra, coffee) adopted by at least 140 communities to increase incomes and diversify livelihoods (assumed at 50% of targeted communities)
- Establishment of 90 women-led producer groups to support communities to bring agricultural and fisheries goods to market, 30 led by young women (assumed average of 3 per Area Council)
- Facilitation of at least six private sector partnerships to support access to distant markets for commodities (assumed at 1 per province)

***Table 12.*** *Project Components and detailed activities, including climate change rationale for each output*

| **Component 1: Government, civil society and communities are strengthened to support local resilience to climate change impacts, including by providing access to climate information and early warnings** |
|---|
| The resilience of rural communities is significantly influenced by: their awareness of climate change impacts; preparedness to proactively act when extreme weather events (e.g. cyclones or drought) occur, based on reliable early warning systems; and to make long term development decisions based on participatory local adaptation plans that incorporate up-to-date climate information. This component builds community and institutional capacity at the local level, integrated into a provincial structure, to plan for and respond to the current and anticipated impacts of climate change. |
| **Output 1.1: Community-based climate change adaptation and disaster risk reduction mechanisms are strengthened**<br><br>**Climate change rationale**<br><br>***All dimensions of climate change are of relevance to this output. The CDCCCs need to understand all elements of climate change and incorporate these into local planning and DRR action plans. This includes both slow-onset changes – such as temperature rise, changes in rainfall patterns (impacting primary food production) – and extreme weather events (disaster preparedness).***<br><br>Climate change is linked with both changes in long-term climate trends and the occurrence of short-term hazards. In turn, these short-term hazards/disasters damage livelihoods and welfare, reducing resilience to climate change. Simultaneously, in the current climate context of increasing frequency and intensity of disaster events, government resources for disaster response will be increasingly in demand. NDMO, with the support of NGO partners, has been working since 2008 to establish Community Disaster Committees. Recognizing the integrated nature of climate adaptation and disaster risk reduction, committees have been renamed to Community Disaster and Climate Change Committees (CDCCCs). CDCCCs facilitate community-level action to increase disaster preparedness, facilitate immediate local disaster response and support local-level activities to support climate change adaptation. The Disaster Risk Management Act No. 23 of 2019 emphasizes establishing community-level CDCCC. While many CDCCCs have been formed, most communities still do not have a functioning CDCCC. Community consultations demonstrated that most existing CDCCC require further support increase their effectiveness, especially in implementing year-round adaptation and DRR activities.<br><br>The VCCRP approach is rooted in 1) recognizing that addressing disaster risk is fundamental to climate change adaptation, 2) the priorities established in the Disaster Risk Management Act, 3) needs identified in the community consultations conducted for this project and 4) the vital role of CDCCCs in increasing community-level resilience. The proposed activities build on previous projects (i.e., Disaster Ready).<br><br>In communities that have existing CDCCC, VCCRP will build targeted capacity while strengthening social inclusion and gender-balance. Based in established and best practices (which fully integrate climate change adaptation with DRR), the project will establish CDCCCs in communities as necessary. CDCCCs will be supported to develop their capacity to identify and address key climate change hazards at the community level. |

| Activity | Activity description | Sub-Activities |
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| Activity 1.1.1<br>Establish Community Disaster and Climate Change Committees (CDCCCs) (where necessary) and build their capacity, including strengthening social inclusion and gender-balance | Activity 1.1.1 will establish new, or strengthen existing, CDCCCs and build their capacity, including strengthening social inclusion and gender-balance. Support will be provided to the national government (including the NDMO and DLA) in developing and field-testing of a CDCCC assessment instrument. CDCCC assessment indicators and methodology will be developed through an inclusive and participatory manner with key stakeholders and will include desktop and ground-truthed analysis of local contexts of where CDCCCs have been established, which are currently operational, and their inclusion of vulnerable groups. Field testing of the CDCCC assessment tool will take place to evaluate and improve the instrument prior to full implementation with all target sites. Consultations during field-testing will capture the perspectives of community members, including children/youth and people with disability, on how to strengthen their CDCCC (such as improving gender-balance). Based on CDCCC assessment instrument findings, tailored support will be provided to subnational government (including Area Councils and DLA) for the establishment and/or ongoing development of CDCCCs. Mechanisms for year-round, recurring resourcing for CDCCC activities, including appropriate workspaces, linked to Activity 3.1.2. | 1.1.1.1 Develop and field-test CDCCC status assessment tool in partnership with Department of Local Authorities and National Disaster Management Office<br>1.1.1.2 Assess CDCCC status using field-tested tool (where CDCCC are established, evaluate gender-balance, engage children/youth and people with a disability, and consult with community to identify opportunities to strengthen CDCCC)<br>1.1.1.3 Support the development of CDCCCs as necessary based on the findings of 1.1.1.2, including, where needed, CDCCC kits and community workspace |
| Activity 1.1.2<br>Increase CDCCC member capacity to identify climate change and disaster risks at the local level | Activity 1.1.2 will increase the capacity of CDCCC members in effectively identifying climate and disaster risk within their respective geographic boundaries. Based on CDCCC assessment findings, CDCCC members will be engaged in leadership and technical training (including climate change adaptation and disaster risk reduction) sessions aligned to their respective needs and strengths. Traditionally vulnerable groups, including women and children/youth, will be engaged to participate in leadership-oriented training to enable greater participation in local adaptation planning processes. Follow-up refresher trainings will be conducted annually, with additional monitoring and support visits as needs arise. CDCCCs will be supported in establishing new, or strengthening existing, communication lines (including telephone, SMS/MMS/RCS, and social media) with the NDMO to enable requests for information and support in leading community education sessions on climate and disaster risk. | 1.1.2.1 Conduct leadership and technical (DRR/CCA) training with CDCCCs, based on needs identified in 1.1.1.2<br>1.1.2.2 Conduct targeted training for women in leadership and children/youth engagement in CDCCCs and adaptation planning processes<br>1.1.2.3 Conduct follow-up refresher training 1 year after initial training with CDCCCs as well as regular monitoring/support visits<br>1.1.2.4 Establish communication channels through SMS or social media for CDCCCs to request information/support from NDMO/Provincial Disaster Officers in leading community education sessions |

**Output 1.2: Communities have increased understanding of climate change impacts and are supported to develop inclusive local adaptation plans**

***Climate change rationale***

***All dimensions of climate change are of relevance to this output. For communities to achieve resilience they need to understand impacts of climate change on food production – primarily increase in temperature and changes in rainfall patterns – and increasing intensity of climate-induced disasters – tropical cyclones and derivative impacts such as flooding and landslides.***

Sixty five of the 83 islands that make up the Vanuatu archipelago have been inhabited for thousands of years. This has enabled the country's people to acquire a profound understanding of their land, sea and climate. Generational knowledge, combined with the expertise that results from being primary managers and beneficiaries of natural resources, is a keystone to local livelihoods, cultural identity, and the ability of dispersed rural populations to cope with disasters. However, an increasingly unpredictable climate is challenging the limits of local and traditional experience, while threatening significant national and community level impacts into the future. Simultaneously, the climate context of increasing frequency and intensity of climate-driven disasters will further stretch government support and international aid, reducing the support reaching vulnerable local populations.

Using the principles of GESI and best practices in the Pacific region, the project will apply participatory approaches for community profiling, vulnerability assessments and planning to select suitable community-based adaptation measures (delivered under Component 2). The project will facilitate community events and develop tailored media products to raise awareness of climate change risks and preparation, with a focus on CDCCCs, Area Councils, and national media sources. Using a participatory and culturally appropriate process in which communities identify their vulnerabilities and priorities ensures that community-based adaptation measures applied will be appropriate, resulting in the effective and efficient use of project resources. Consultation and collaboration with communities to address their self-identified needs and involve them in implementation additionally translates to increased uptake of adaptation measures at the local, and most vulnerable, level of Vanuatu society.

The Community Adaptation Plans will include mapping of risk zones and identification of adaptation actions to reduce risk to infrastructure and human life. Incorporating climate and disaster risk information, such as coastal erosion and flood inundation, will support CDCCCs in developing evidence-based approaches to adaptation and DRR. The Plans will address the current need for rapid local assessments post disaster, for the timely delivery of disaster relief in the context of limited government resources (This approach was shown to be especially useful during TC-Harold response in which national and international aid was restricted due to COVID-19 considerations). Addressing these gaps and building on this experience, VCCRP will increase the capacity of CDCCC to not only reduce, prepare for and respond to local disaster impacts, but also to assess disaster impacts to key sectors, and effectively report the assessment using the appropriate forms and communication channels. Further, the Plans will incorporate short- and medium-term adaptation actions that will support the increased resilience of food security and livelihoods in the context of climate change.

The VCCRP approach goes beyond only delivering concrete and immediate results, by also creating a culture of adaptation across local, subnational and national levels. Engaging, educating and enabling the population that is managing key livelihood and resources and landscapes translates into the self-sustaining longevity of project outcomes, and a multiplier-effect in which upcoming generations will continue to fortify the resilience of Vanuatu's population well into the future.

| Activity | Activity description | Sub-Activities |
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| Activity 1.2.1<br>Community awareness raising on climate change risks to food systems, livelihoods and disaster risk via targeted IEC materials and information sessions managed by Area Council Climate Change Officers and CDCCCs | Activity 1.2.1 will contribute towards building awareness in target communities on climate change and disaster risks to food systems and livelihoods by supporting Area Councils and CDCCCs with tailored IEC materials and training resources to facilitate community information sessions. A desktop review of existing climate change education materials (including those developed by other projects including GIZ CCPIR, RESCCUE, PEBACC) aimed at community-level audiences will be reviewed to identify gaps and opportunities for improvement in partnership with sector stakeholders. Support will be provided to MoET and MoCC to incorporate project level information on climate change risks to food systems, role of habitats in supporting fisheries, livelihoods, disaster risk and adaptations options into existing material being developed for teaching and capacity building purposes. Digitized train-the-trainer sessions with Area Councils and CDCCCs will be facilitated to ensure effective utilization of newly developed digital and paper-based IEC materials and key messages. Following dissemination of IEC materials, training opportunities will be scaled-up for interested community members, civil society organizations, and other local stakeholders. In conjunction with Activity 3.2.2, in-person knowledge exchange events will be held with local (including Area Council and CDCCC members), subnational, and national stakeholders to facilitate an additional entry point to champion consideration of local issues in subnational / national climate change adaptation planning processes. | 1.2.1.1 Review existing climate change education and awareness raising materials available at the local level to identify gaps and opportunities for improvement<br>1.2.1.2 Building on existing efforts by MoET and MoCC to develop standardised participatory climate change education and awareness raising materials and key messages on climate change risks to food systems, role of habitats in supporting fisheries, livelihoods and disaster risk<br>1.2.1.3 Conduct best practice adult learning approaches to digitized train-the-trainer sessions with Area Council Climate Change Officers and CDCCCs using materials designed in 1.2.1.2 (delivered in tandem with 1.1.2.1 and 1.3.2.2)<br>1.2.1.4 Disseminate digital and paper-based awareness materials and extend training through local officers, CSOs and communication networks, as well as through participation in public events that provide outreach opportunities<br>1.1.2.5 Facilitate face-to-face knowledge exchange events with local community representatives, area council representatives and sub-national government officials and representatives to help ensure local issues are considered in sub-national/national adaptation planning processes (linked to 3.2.2.3) |

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| Activity 1.2.2<br>Identify key local issues that drive climate vulnerability and use this to develop local adaptation plans and measure program impact | Activity 1.2.2 will support identification of key challenges and barriers that drive climate vulnerability as well as existing local resources and adaptive capacities to inform development of local adaptation plans. The DLA will be provided with technical support toward capacity building of Area Council members in facilitating community profiling and assessing / documenting local climate vulnerabilities in alignment with the National Vulnerability Assessment Framework (NVAF) and other national sector guidance. Following digitized train-the-trainers sessions with DLA officers and Area Council members, participatory community profiling and local vulnerability assessments will be undertaken by local Area Council members. Rapid baseline surveys of key biophysical and ecological natural resources that support local food systems and livelihoods will be carried out, including assessment of threats to watersheds, erosion hotspots, mangrove and reef health, fish catch surveys, invasive species, and agricultural pests and diseases. In addition to collecting biophysical and ecological baseline data for assess project impact, household socioeconomic surveys will be conducted with national stakeholders (such as VNSO) to assess local natural resource dependence to inform adaptation interventions. | 1.1.2.1 Build capacity of Area Council climate change officers in community profiling and documenting local vulnerabilities (consistent with National Vulnerability Assessment Framework, GESI principles and child/youth inclusive approaches)<br>1.1.2.2 Conduct participatory community profiling and documenting of local vulnerabilities to record the key local issues that drive climate vulnerability to inform the development of Community Adaptation Plans<br>1.1.2.3 Conduct rapid baseline biophysical and ecological surveys of key natural resources (habitats and species) that support food security and livelihoods and help measure program impact (including technical assessments of threats to watersheds, erosion hotspots, mangrove and reef health checks, fish catch surveys, invasive species, agricultural pests and diseases)<br>1.1.2.4 Conduct household socioeconomic surveys to document resource dependence and important natural resources to inform local adaptation actions |
| Activity 1.2.3<br>Development of inclusive Community Adaptation Plans and identification of key resilience building actions (selected from adaptation package menu) | Activity 1.2.3 will facilitate development of Community Adaptation Plans and identification of key climate resilience building actions from the VCCRP adaptation package menu of interventions. Building on findings from Activity 1.2.2 and in partnership with the DLA, a participatory and inclusive stakeholder engagement processes will be undertaken to develop Community Adaptation Plans, helping prioritize immediate to mid-term adaptation actions to address current and projected climate change risks, as well as identifying key areas for adaptation investment. Community Adaptation Plans will provide the foundation from which communities identify their local preference and priorities for VCCRP adaptation interventions, | 1.1.2.1 Sub-national government /CDCCCs facilitate participatory stakeholder engagement processes to develop Community Adaptation Plans, based on the data collected via activity 1.2.2, which identify immediate and mid-term adaptation actions to address current and projected climate change risks<br>1.1.2.2 Sub-national government/CDCCCs and diverse community representatives to |

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| | ensuring actions taken align to local needs, are socially acceptable, avoid adverse environmental and social impacts, and address the underlying local drivers of climate change vulnerability. The Plans will target both immediate adaptation priorities (some of which can be met via the VCCRP adaptation packages) and longer-term priorities, as well as identifying specific adaptation investment opportunities (including value chain and market opportunities) via an 'investment plan' component. Validation by community members (including Area Councils and CDCCCs) will enable finalization of Community Adaptation Plans and prioritization of VCCRP adaptation interventions to be undertaken, followed by periodic updates every 3 years. | select the highest priority and locally appropriate adaptations from the VCCRP 'adaptation package' (Component 2) that are socially acceptable, avoid adverse environmental and social impacts, and address the main drivers of climate vulnerability<br>1.1.2.3 Finalise Community Adaptation Plan, including key priority activities for implementation by VCCRP and future activities. Validate with community members and Area Council officials and update on a 3 year cycle |

**Output 1.3: Communities have increased access to climate information services and early warning systems and the skills to utilise them as adaptation tools**

***Climate change rationale***

***Vanuatu's climate information and early warning services are focused on disaster preparedness, predominantly related to tropical cyclones. Tropical cyclones are forecast to increase in intensity as climate change impacts escalate over time.***

The GCF-funded Van-KIRAP project being implemented by VMGD is tasked with tailoring CIS products for key sectors and increasing the delivery and use of CIS across sectors. Building on Van-KIRAP, VCCRP will facilitate the extension of CIS to more communities, focusing on target communities that are highly vulnerable to climate change. Given the technical nature of CIS, local level- training is required for communities to benefit from information. VCCRP will build on Van-KIRAP by conducting technical trainings with CDCCC and other interested community members to increase local capacity to understand and effectively use CIS to reduce risk and increase resilience. CIS training will build on CDCCC capacity development achieved in output 1.1. The extension of CDCCC information and roles, and support after disasters is disseminated in Vanuatu using a range of communication tools, including word of mouth, education sessions, radio, social media and popular news. Enhancing this information delivery, particularly for vulnerable communities in rural and remote locations will be important for ensuring that CDCCCs can support more people and extend their reach. The incorporation of climate and disaster risk, such as data on coastal erosion and flood inundation, can inform local planning processes by providing decision-makers with evidence-based recommendations. The project aims to support inclusive planning and budgeting processes at local levels to effectively incorporate climate and disaster risk into local (e.g. CDCCC) planning processes. Disaster risk will further be reduced by strengthening local-level access to early warning systems (EWS) notifications, including ensuring that community plans include clear procedures for notifying all community members of pending disasters, with a specific focus on those with disabilities.

| Activity | Activity description | Sub-Activities |
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| Activity 1.3.1<br>Develop and distribute CIS IEC products to support community adaptation awareness raising and adaptation planning processes | Activity 1.3.1 will support development and distribution of CIS IEC products to inform community-level climate change adaptation planning processes. In conjunction with Activity 1.2.2, a baseline assessment of existing access to EWS and CIS in target communities will be undertaken, including traditional indicators and knowledge as well as accessibility for people with disabilities and vulnerable groups. Based on demonstrated baseline assessment findings, support will be provided to enhance CDCCC infrastructure through the procurement and installation of solar PV systems (including batteries, lights, and wiring) and internet connectivity. Technical support will be provided to CDCCCs to establish a system of on-selling data capacity to cover operational / maintenance costs and address long-term sustainability. Elderly members of target communities will be encouraged during community meetings to help identify and capture traditional knowledge for early warnings of disasters or extreme weather events related to agriculture or fisheries, with an emphasis on highlighted local/community-level expertise. CIS products and knowledge management materials will be developed (including print, digital, audio, and mixed-media) for use in target communities in partnership with national authorities (including NDMO and VMGD). Opportunities to extend or scale-up CIS materials from other relevant projects (particularly Van-KIRAP / FP035) for community-level use will be preferred to ensure efficiency and to avoid duplication of efforts. | 1.3.1.1 Conduct best practice review and baseline study of existing access to EWS in high-risk communities (undertaken in conjunction with 1.2.2)<br>1.3.1.2 Enhance community EWS infrastructure where gaps exist (installation of small rooftop satellite dishes) and establish system for CDCCCs to on-sell data capacity to cover costs<br>1.3.1.3 Support CDCCCs to conduct participatory community meetings with an emphasis on the participation of elderly community members to identify, share and capture traditional knowledge for early warning of disaster or weather extremes related to agriculture or fisheries<br>1.3.1.4 Deliver CIS products and materials to communities from the Van-KIRAP and NDMO/VMGD projects identifying opportunities to further extend tailored materials for community-level use in target communities. In support of 1.2.1.2<br>1.3.1.5 Disseminate climate information to target communities through a range of media, including printed materials, social media, text messages and radio (e.g. radio drama). Linked to 1.2.1.4 |
| Activity 1.3.2<br>Build capacity of Area Council Climate Change Officers and CDCCCs to effectively utilize CIS in community planning processes | Activity 1.3.2 will strengthen the capacity of Area Councils and CDCCCs in the use of CIS resources and information to inform community-level planning processes. Technical training materials will be prepared that address community needs and are tailored for community-level understanding (layperson) of climate and disaster risk. Tailored technical trainings will be facilitated with CDCCCs and community members (using digitized Train-the-Trainer model) on use of CIS products and resources, including integration of | 1.3.2.1 Optimise training materials that specifically address community needs and are tailored to community-level understanding of climate change, including integration of GESI considerations and child/youth inclusive |

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| | GESI considerations and youth-inclusive approaches. Collaboration on delivery of CIS technical training with Van-KIRAP (FP035) and national authorities (VMGD and NDMO) will avoid duplication of efforts. Building on Activity 1.2.1, community trainings will be delivered by CDCCC members on using CIS related to agriculture, fisheries, and disaster risk reduction, thereby increasing local knowledge base on understanding climate change. | approaches (extending CIS delivery from FP035)<br>1.3.2.2 Train local Area Council Climate Change Officers/CDCCCs to deliver community training on accessing and using climate and early warning information, in conjunction with 1.2.1.3<br>1.3.2.3 Conduct community trainings on accessing and using climate information relating to fisheries, agriculture and disaster preparedness through CDCCCs building on increased community understanding of climate change from 1.2.1 |

**Component 2: Scalable, locally appropriate actions are implemented to meet community adaptation needs to create climate-resilient, sustainable development pathways**

Vulnerable communities can only achieve climate-resilient food systems and livelihoods if their primary production is made resilient to climate shocks. This component focuses on strengthening agriculture and fisheries systems to achieve food security and promoting economic activities through local value-chain improvements in order to diversify livelihoods options. This component is the core of the project and is built around the adaptation package menu which is flexible and scalable to community contexts.

**Output 2.1: Local natural resources are more resilient to climate change impacts through implementation of nature-based solutions**

***Climate change rationale***

***Sea level rise and the increasing intensity of tropical cyclones negatively impact the functioning of coastal barriers. Secondary impacts include increasing ocean acidity and SST that reduce the capacity of coral reefs to develop and absorb the impact of wave action upon the coastline.***

Climate change impacts on natural resources that support food systems and livelihoods vary by location and over time and will, therefore, affect communities differently. This output will document the current baseline conditions of natural resources and resource use, including food and income priorities in target communities. This information will guide selection of eligible adaptation actions and underpin evaluation of adaptation success. This Output will benefit from local and traditional experience, harnessing and fortifying this existing capacity and daily management of daily resources, while also addressing the limits of local and traditional experience in the current and future climate contexts.

| Completing the integrated VCCRP approach to creating self-sustaining community-based disaster risk reduction, the project will work through CDCCCs and communities to support adaptation actions that strengthen or rehabilitate coastal protection barriers, reduce risk of flood/landslides and improve water-security through socially and ecologically appropriate nature-based solutions, including mangrove planting, reforestation, living barriers and micro check dams. These actions will build the climate resilience of local ecosystems and help protect food security and livelihoods in a changing climate. | | |
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| **Activity** | **Activity description** | **Sub-Activities** |
| Activity 2.1.1<br>Support adaptations that strengthen or rehabilitate coastal protection barriers, reduce risk of flood/landslides and improve water-security through nature-based solutions | Activity 2.1.1 will deliver community-based education on coastal and upland resource management (including role of mangroves in local fisheries and natural coastal barriers), working with CDCCCs and community leaders to ensure inclusive, participatory events that incorporate traditional knowledge and 'kastom.' The education components will be parlayed into planning workshops with sector stakeholders (including DEPC and DARD) for development of coastal and upland resource management plans (as a component of the Community Adaptation Plan). These community-led plans will be informed by activities under Component 1 that also address community education and identification of underlying issues that drive climate variability. Building on baseline biophysical and ecological surveys carried out under Component 1, this activity will establish living barriers (including planting mangroves and vetiver grass), support reforestation of damaged forests and watch catchments (including growing saplings), manage invasive vine species impacting watersheds (identify and remove), and establish new / strengthen existing community conservation areas (including helping community leaders establish/expand 'tabu' areas). | 2.1.1.1 Deliver community education and awareness raising on coastal and upland resource management<br>2.1.1.2 Conduct planning workshops with sector stakeholders for development of community-led coastal and upland resource management plans (including cooperation between communities for cross-boundary resources) – drawing in information from 1.2.2 and 2.1.1.1. Resulting plans will form a component of the Community Adaptation Plans under 1.2.3<br>2.1.1.3 Establish living barriers (vetiver and/or native trees) to storm winds, erosion or landslide zones to fortify slopes and reduce erosion<br>2.1.1.4 Support reforestation of damaged forests and water catchments using native species (including native coastal vegetation) and micro check dams for erosion control and groundwater recharge<br>2.1.1.5 Management of invasive vine species that impact on watersheds<br>2.1.1.6 Establish or enhance traditional tabu areas for conservation of forest resources, including biodiversity |

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| Activity 2.1.2<br>Introduce/scale up improved agriculture methods to minimise erosion and reduce impact of pests and diseases | Activity 2.1.2 will support agriculture technical officers at DARD to develop, produce, and deliver training and education materials on climate-resilient agricultural practices, including reviewing and strengthening existing technical resources. Further support will be provided to DARD staff to undertake community participatory approaches to develop and implement site-specific strategies to combat soil erosion (including conservation methods, minimum tillage and contour planting/terracing). Based on community validation of erosion strategies developed, this activity will establish field demonstrations to showcase to local households and community members various approaches to mitigating soil erosion and facilitating groundwater recharge. Field demonstrations will be complimented by the distribution of trees and plants to prevent erosion (native tree saplings and vetiver grass) and tools to support implementation (planting at identified hot spots). | 2.1.2.1 Develop and provide training and education materials on climate-resilient agricultural methods to minimise erosion and facilitate groundwater recharge<br>2.1.2.2 Support communities to develop site-specific strategies to combat soil erosion and loss and facilitate groundwater recharge<br>2.1.2.3 Establish field demonstrations sites for soil erosion minimisation methods and facilitate groundwater recharge<br>2.1.2.4 Distribute preventive species for erosion control, including establishing Area Council agro-forestry nurseries, and tools to support implementation (coordinated with 2.2.2.3) |
| Activity 2.1.3<br>Support communities to protect and rehabilitate habitats that support fisheries, particularly degraded coral reefs, seagrass meadows and mangroves | Activity 2.1.3 will support provincial fisheries officers to develop, produce, and deliver training and education materials on mangrove and reef health, sustainable fisheries practice and coastal zone management (including the role of habitats for coastal/marine resources). Further support will be provided to provincial fisheries officers to engage communities (direct beneficiaries) on identification and establishment of priority actions to address protection and rehabilitation of local coastal habitats (including reduced mangrove clearing, limited reef gleaning). Emphasis will be placed on collaborating with community leaders (including chiefly authorities and CDCCCs) on establishing new / enhancing existing 'tabu' areas for environmental conservation (including freshwater resources, reef fisheries). Degraded coastal resources (including mangroves, seagrass meadows and coral reefs) will be identified and rehabilitated as part of overall efforts to support communities to protect and rehabilitate habitats that support fisheries. Similar to Activity 2.1, invasive species (including crown of thorns starfish) in coastal habitats will also be addressed (identified and removed). | 2.1.3.1 Develop and provide training and education materials on mangrove and reef health, sustainable fisheries practices and coastal zone management<br>2.1.3.2 Engage communities to establish priority areas and targets for action<br>2.1.3.3 Establish or enhance traditional tabu areas for conservation of coastal resources and freshwater resources (if applicable), building on 2.3.1.1<br>2.1.3.4 Where relevant, rehabilitate degraded mangroves, seagrass meadows and coral reefs<br>2.1.3.5 Management of climate-driven invasive species (i.e. crown of thorns starfish) |

**Output 2.2: Climate-resilient agriculture for food security and livelihood development**

**Climate change rationale**

**Increasing temperatures and changing rainfall patterns affect the availability of soil moisture during critical stages of the growing season.**

Climate change is affecting the success of traditional planting methods and ways of growing crops due to changes in local weather and climate, pests and disease. Some traditional planting and harvest methods are no longer suitable to the changing conditions. Thus, introducing climate-resilient traditional methods for planting and harvest, coupled with the use of local plants to control pests, and choosing crop varieties which tolerate extreme conditions such as heatwaves, droughts and floods are options that can minimize the impacts of climate change on food security. Such practices include planting to suit seasonal calendars, use of natural compost and mulch.

Agricultural production in Vanuatu is overwhelmingly rainfed. Thus, most crop production relies on rainfall in order to sustain growth and produce high yield. Projected increases in rainfall variability, and changing rainfall extremes, including drought caused by El Nino events, are expected to affect many agricultural crops, and will be exacerbated by other climate change impacts, such as increasing temperatures.

Water conservation methods are one of the best local options that communities can adopt to protect crops during El Nino or long drought periods. Introducing low-tech water conservation methods, such as companion intercropping, composting, mulching, use of appropriate agroforestry systems and other relevant techniques will support soil health and minimise the need for irrigation while maintaining crop productivity.

Climate change is already negatively affecting many local crop varieties due to changing rainfall, temperature and weather patterns. Introducing climate-resilient native food and cash crops is one of the best options for food systems to adapt to the changing climate thus supporting food security and income generation for vulnerable communities.

Education, training and capacity building on climate-resilient agricultural practices and techniques is lacking in many remote communities of Vanuatu. This is due to lack of government services in rural communities and poor communication infrastructure (e.g. network coverage). Community training on climate-resilient practices to promote healthy food systems and crop production will support kitchen gardens in schools and households and provide enhanced nutrition in target communities.

Poor agriculture practices such as slash and burn on steep land has contributed to soil erosion and loss, which is becoming a problem in many communities farming in upland areas. Unproductive soils and declining crop yields, as well as increasing sedimentation in coastal habitats, are the result of poor upland practices that cause soil erosion.

More extreme rainfall events are expected to cause even more erosion in upland farm/garden areas. The introduction of soil conservation methods, such as minimum tillage, cover crops (e.g. muccuna *(Muccuna utilis*)*),* contour planting or terracing, and use of hedgerows with vetiver grass (*Chrysopogon zizanio*ides) to minimise soil erosion and conserve soil and water for crops will address this accelerating issue.

Land use plans that incorporate climate change projections, rehabilitation of degraded land and resilient agriculture do not exist in Vanuatu. Developing land use plans for target area councils that incorporate climate change projections (extremes, rainfall, and temperature), damaged habitats and water catchments, and climate-resilient agricultural practices will provide better planning and farming sustainability into the future.

| Activity | Activity description | Sub-Activities |
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| Activity 2.2.1<br>Support adaptations to traditional farming methods to increase climate-resilience and increase food security | Activity 2.2.1 will support DARD technical officers to perform a comprehensive stock take of exiting and traditional agriculture practices and seasonal crop calendars in target communities. The results of the stock take will support the DARD in development of training materials on climate-resilient agriculture and water conservation techniques (including intercropping, seed selection, grafting techniques, and planting management). Training materials produced and distributed will encompass existing DARD resources as well as new resources (such as video demonstrations on natural composting) focused on climate-resilient agriculture practices. DARD technical officers will be supported in undertaking training and education workshops at the community level. Public areas for field demonstrations will be established in partnership with community leaders to enable DARD technical officers to showcase climate-resilient agriculture methods using a participatory learning approach. | 2.2.1.1 Confirm and document what existing and traditional practices exist in each target community and their seasonal calendar (in combination with 2.1.1.1)<br>2.2.1.2 Develop training materials on climate-smart agriculture and water conservation techniques that will best suit changing conditions based on information gathered in 1.2.2 and combined with 2.1.3.1 – including intercropping, seed selection, grafting techniques, planting, management, etc<br>2.2.1.3 Conduct training on climate-resilient agriculture techniques at community level<br>2.2.1.4 Establish field demonstrations of climate-resilient agriculture techniques (including traditional methods where appropriate) |
| Activity 2.2.2<br>Introduce/scale up adoption of climate-resilient native food and cash crop varieties | Activity 2.2.2 supports the adoption (through increased supply and accessibility) of climate-resilient native food and cash crops through partnerships with nurseries and sector stakeholders (including DARD, VARTC, FSA) in target communities. Support for Area Council nurseries will include collaborating with stakeholders to supply and raise new climate resilient seeds and seedlings, and establishing multiplication plots of resilient food and cash crops. Prior to distribution, DARD technical officers will be supported to survey needs for accompanying agricultural tools and equipment for each target Area Council. Mass distribution of resilient native food and cash crops planting materials will be complimented by distribution of simple agricultural tools (including earth huger, rotavator) to increase productivity. Training will be provided to accompany distribution of new planting materials and tools. | 2.2.2.1 Establish new or support existing nurseries at Area Council level for raising climate-resilient seed stocks, including native food and cash crops varieties, and germinating seedlings for food and cash crops<br>2.2.2.2 Distribute resilient native food and cash crops planting materials to communities, including identified climate-resilient varieties of: fruit and nut trees, coconut, vegetables, cacao, coffee and kava<br>2.2.2.3 Distribute simple agricultural tools to communities to increase production of resilient food and cash crops |
| Activity 2.2.3<br>Establish/scale-up community-, school- and home-based kitchen | Activity 2.2.3 focuses on supporting adoption (through increased supply and accessibility) of kitchen gardens to promote enhanced nutrition utilising climate-resilient crops. Delivery of family-based nutrition education on traditional diet and local food gardens with diversified climate-resilient crops | 2.2.3.1 Deliver family-based nutrition education based on local food and kitchen gardens with diversified, climate-resilient crops |

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| gardens for enhanced nutrition utilising climate-resilient crops | will be carried out collaboratively with DARD and other sector stakeholders. Training and awareness materials will cover family-based (household, school, community) nutrition awareness and kitchen gardens to promote nutrition and use of traditional food sources. Also covered will be agroforestry to promote healthy soils and water conservation (including using trees for shade, soil stabilization, improving soil moisture, etc.), as well as plant health and capacity building of community members to better identify and manage pests and diseases. Climate-resilient seeds, seedlings and plants will be procured and distributed in partnership with DARD. Public areas for field demonstrations will be established in partnership with community leaders to enable schools to raise vegetable and tree seedlings for enhanced nutrition. | and training to promote nutrition and greater use of traditional foods<br>2.2.3.2 Distribute seeds, seedlings and plants to schools, communities and households to facilitate seed exchanges and seed saving to increase local independence and resilience<br>2.2.3.3 Establish demonstration training gardens in schools and/or communities to raise vegetable and tree seedlings for increased climate resilient nutrition |

**Output 2.3: Climate-resilient fisheries for food security and livelihood development**

**Climate change rationale**

**Increasing SST, ocean acidification, changing rainfall patterns and increasing intensity of tropical cyclones all affect the ecology of marine resources. Coral bleaching brought on by climate change will significantly alter the ecological functioning and primary productivity (e.g. reef fish resources) of the coral reefs.**

Healthy coastal habitats are critical for sensitive stages of life cycles of almost all marine resources relied upon by Vanuatu communities. Not only are these habitats projected to decline in area and condition under slow onset climate change, they are already impacted by current climate-related threats such as marine heatwave events, cyclones, terrestrial runoff as well as crown-of-thorn starfish infestations. Community-level activities have also been shown to impact these habitats. Climate change is also projected to significantly reduce the productivity of coastal resources in the coming years, reducing fish populations and the catches needed to nourish communities. These impacts, through threats such as heatwave events causing fish die-offs and further habitat degradation, are already being observed. Further, community surveys also identified that recent declines in coastal fish populations are already being observed with destructive fishing practices used routinely, and management controls on fishing practices and catches notably lacking.

Resourcing and capacity at all levels in Vanuatu is limiting, particularly in identifying and addressing key climate-related environmental challenges. Community surveys have also identified a lack of local capacity to manage coastal resources, but also a community desire to acquire the necessary skills and knowledge. To successfully and sustainably address current and emerging coastal resource impacts needed for climate-resilience, targeted capacity building is required that is non-complex and relevant to the local context. Through local education and capacity building using simple approaches, communities can be empowered to reduce the impacts imposed on these critical habitats and the resources they support, that will increase the resilience of the broader coastal ecosystem, thereby maximising community resilience to increasing climate-related pressures. This will help to support food security and livelihoods.

The project will partner with communities and government to develop training and capacity building programs that are appropriate for empowering communities to manage coastal resources, including habitats, effectively and sustainably. This training will be implemented in target communities in partnership with national and local government that will facilitate ongoing support. Further, community training will build local-level capacity in environmental stewardship and leadership to further facilitate sustainable coastal resource management. With engagement and training providing a foundational basis, the project will facilitate a community-led

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| approach to implement simple but effective primary fisheries management. This will reverse the current fish population declines, and minimise emerging and future climate-related impacts on coastal resource populations. The project will provide fishing communities with access to tools and knowledge to diversify fisheries off-reef. | | |
| **Activity** | **Activity description** | **Sub-Activities** |
| Activity 2.3.1<br>Build community capacity on coastal resource management and monitoring that supports sustainable fisheries | Activity 2.3.1 will build the capacity of target communities on coastal resource management through delivery of bespoke training and education programs. In parallel with Activity 2.1, communities will be engaged to assess coastal resource conditions (including habitats), direct and indirect threats (including mangrove clearing, overfishing), and current management and governance practices (including conservation or 'tabu' areas). Community leaders will identify 'community champions', including youth champions, who will serve as focal points for activity implementation and communication to team members. Coastal resource assessments will inform the development of culturally appropriate and scalable coastal resource management training programs in partnership with key sector stakeholders (including VFD and community champions). Support will be provided to VFD fisheries specialists for development and delivery of coastal resource management training program, including pilot implementation prior to upscaling to further project sites. | 2.3.1.1 Engage communities to determine coastal habitat and resource conditions and threats (in combination with 2.1.1.1)<br>2.3.1.2 2.3.1.2 Develop a culturally appropriate and scalable coastal resource management training program that includes key capacity areas: the effects of fishing, habitat management tools, monitoring, and sustainable self-governance, including a youth-focused component<br>2.3.1.3 2.3.1.3 Deliver education and capacity development program developed in 2.3.1.2 |
| Activity 2.3.2<br>Support communities to adopt primary community-based fisheries management to reduce climate change impacts | Activity 2.3.2 will support adoption of primary community-based fisheries management given small-scale fisheries with limited management and enforcement capacity. Training materials focused on building community-level capacity in leadership, monitoring, and effective governance will be developed in consultation with 'community champions,' followed by delivery of training sessions in partnership with Area Councils and provincial government. Community champions will work in partnership with VFD fisheries specialists and community members to collect local fisheries data using community-based monitoring methods. Support will be provided to community champions in use of monitoring data to assess effectiveness of new fisheries management techniques, conduct refresher trainings for peers as needed, and establish long-term mechanisms for sharing data between communities and government. Support for implementation of climate-resilient management techniques focused on primary community-based fisheries management to reduce climate change impacts will be determined through community consultations and sector stakeholders (including VFD). Offshore fishing equipment (including FADs, bottom-fishing gear, and training on | 2.3.2.1 Develop community-level capacity in leadership, monitoring and effective governance, including management of tabu areas<br>2.3.2.2 Support community champions to collect local and relevant fishing data using established community-based monitoring methods to inform decision-making<br>2.3.2.3 Support community-level implementation of climate-resilient fisheries management and development of locally appropriate governance mechanisms<br>2.3.2.4 Support diversification and sustainability of fisheries resources (alleviating |

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| | canoe making) will be distributed to target communities as a means of alleviating pressure on inshore fisheries and to support diversification and sustainability of fisheries resources. | pressures on inshore fisheries) by providing off-shore fishing equipment in targeted communitiesSupport diversification and sustainability of fisheries resources (alleviating pressures on inshore fisheries) by providing off-shore fishing equipment in targeted communities, including bottom fishing gear, and training on canoe making, as appropriate |

**Output 2.4: Women-led climate-resilient food processing and preservation established to support food security and diversification of livelihoods options**

**Climate change rationale**

**Climate change impacts on primary food production, driven by changes to rainfall and temperature, as well as increasing extremes, require that food stores are established to provide food security and that communities are supported to identify and pursue alternative livelihood strategies.**

Climate change, including disaster events, impact on traditional crop and fisheries production and food-security, with reverberating impacts on local livelihoods and, consequentially, the availability of capital to purchase store-bought food stuffs. Disaster relief supplies are often limited, and post-disaster government aid is likely to be increasingly spread thin in the context of increasing frequency and intensity of disaster events (which can leave communities food-insecure for extended periods). With the projected impacts of climate change on coastal resources, and the potential that implementing controls on fisheries catches will alter local food and income generation regimes, diversification will be important to ensure ongoing access of communities to essential protein.

As part of VCCRP's integrated approach to delivering self-sustaining outcomes, this output addresses this cascade and recognizes that food processing and preservation methods (e.g. solar driers and freezers) are key to climate-resilient food and livelihood systems, addressing yearly fluctuations in agricultural production and disasters such as cyclones, while facilitating commodity diversification. The increased use of preservation and storage techniques will facilitate communities to benefit from high agricultural production years to sustain them through less productive years, produce stored foods to provide food-security after disaster events, and increase livelihood opportunities.

At the subsistence level, communities in Vanuatu traditionally utilized a variety of food preservation and storage techniques; the active use and knowledge of these techniques is increasingly uncommon. This may be attributed to greater reliance on store-bought commodities including tin fish and rice which (given the cascade described above and the impact of climate change on both food security and livelihoods) compounds the threat climate change poses to food security.

The private sector in Vanuatu is dominated by small-scale enterprises. Private sector operations in agricultural and fisheries products are primarily focused on the local market and export of a few products, of which kava is the dominant product, with volumes of cocoa, coffee and copra being much smaller. The COVID-19 pandemic had a significant impact on the private sector of Vanuatu, including a drop in demand by customers, secondary demands (e.g. support family members) and a reduction in cashflow. Linkage of localised food processing to merchants in the national market is required to increase resilience.

Farmers face challenges in selling some products, such as copra, due to the fluctuating global market prices and value-adding products can generate additional income. This will become increasingly important as climate change impacts some commodities. Value-added products for crops and trees provide opportunities for maximising income from current or emerging products and are of interest to communities. For example, value-added products such as nuts, kava, sandalwood, and noni fruit generate more income per kg than many traditional crops that are experiencing declining productivity. Supporting the diversification into new commodities and value-added products that might otherwise remain unsold, will deliver additional income generating opportunities for target communities. Food preservation and storage techniques will also extend the shelf-life of both agricultural and fisheries products, reducing food loss and improving quality, allowing transport to markets, particularly for remote communities that are isolated from market centres.

The uptake of food preservation and storage techniques, including their regular and prevalent use, depends on community members identifying the need for such strategies and a self-motivated interest in implementing them. Otherwise, uptake and continuity of project outcomes are likely to be limited. This barrier will be addressed by using a collaborative and participative approach to engaging communities in using preservation and food storage techniques as a backbone of climate-resilient food value chains and strengthened livelihoods. Local solutions that are low-tech (e.g. solar air driers, smoking), and rooted in community interest/existing traditional techniques, will be most appropriate in rural and remote communities, with renewable technologies (e.g. solar freezers) an option in communities that are able to operate and maintain equipment. Training in selection, installing, operating and maintaining both low-tech and renewable technologies is key to their long-term sustainability. Uptake may be further supported by linking food preservation to new innovations and opportunities (i.e, the production and sale of value-added products, especially by women).

| Activity | Activity description | Sub-Activities |
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| Activity 2.4.1<br>Introduce or scale up women-led local solutions for food processing and preservation | Activity 2.4.1 will introduce new (or scale up existing) local solutions for food processing and preservation as a means of supporting food security, reducing food loss and diversifying livelihood options to strengthen climate resilience. Local commodities that can be harvested or grown in target communities and are suitable for preservation will be promoted for cultivation and preservation in communities. Target communities will be provided with educational information on relevant food processing and preservation techniques. Adaptation technologies for food preservation and storage (including solar dryers and solar freezers) will be supplied to communities to facilitate food processing. Target communities will be provided with support towards long-term use, operation and maintenance of food processing and preservation systems (including replacement parts, refresher trainings, and upskilling as needed). Key stakeholders (including Area Councils, DLA) will be provided with support towards identifying and addressing barriers to support successful adoption of adaptation technologies | 2.4.1.1 Local stakeholder engagement to select commodities that exist or can be introduced to communities that are most suitable for preservation and storage (based on existing traditional and cultural practices incorporating the latest best practice across the Pacific).<br>2.4.1.2 Purchase and install food preservation and storage systems in target communities<br>2.4.1.3 Support long-term use, operation and maintenance of food processing and preservation systems, including accessing spare parts and skilled labour as needed |
| Activity 2.4.2 | Activity 2.4.2 will support DARD technical officers in delivering outreach and educational information on recommended value-added products. Outreach | 2.4.2.1 Participatory community processes to identify opportunities for diversification |

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| Support women to diversify into new agricultural/food commodities and value-add products that deliver greater income generating opportunities | will take place at the Area Council level, with further dissemination of information and materials to individual target communities based on relevance. A sub-set of targeted communities will be provided supported to develop new agriculture/food commodities and value-added products (dried fruits, dried nuts, smoked fish, shell crafting, copra, coffee) for income generation as a means of supporting food security and diversification of livelihood options. Participatory and inclusive community consultations (workshops and meetings) will identify and prioritise opportunities, ensuring a community-led process. A market analysis will be undertaken to inform how to best support community development of value-added products as well as increase access to new (distant) markets for emerging commodities. | into and value-add food and non-food products for income generation<br>2.4.2.2 Support women to develop value-add products that generate income and access to new (distant) markets for emerging commodities, e.g. dried fruits, dried nuts, smoked fish, shell crafting, copra, coffee, cocoa, etc. utilizing food preservation systems under 2.4.1 |
| 2.4.3: Support women-led enterprises to access private partnership options to access new (distant) markets for value-add products | Activity 2.4.3 will support DARD technical officers in delivering outreach and educational information on recommended value-added products. Outreach will take place at the Area Council level, with further dissemination of information and materials to individual target communities based on relevance. Assistance with production and distribution of value-added products and agriculture/fisheries commodities will be channelled through producer groups established at the community and/or Area Council level. In collaboration with the VCCI, private sector partnerships will be identified and established to further support community-level enterprise and enhance access to markets, and, where possible, support producer groups to transition into micro or small enterprises (including support to identify longer term sources of finance for business development). | 2.4.3.1 Support women to develop producer groups (at community or Area Council level) for production and distribution of value-added products and agriculture/fisheries commodities<br>2.4.3.2 Support the establishment of partnerships with private sector entities to facilitate community enterprise and enhanced access to markets in collaboration with Vanuatu Chamber of Commerce and Industry |
| **Component 3: Institutional adaptive capacity is enhanced by building adaptive governance systems at the local level and enhancing local-provincial-national linkages** | | |
| One of the key processes in adaptive governance is the feedback mechanism and integration of lessons learned into policies and procedures. Consideration of gender equality and social inclusion (GESI) procedures in local planning will ensure that all vulnerable local individuals, households and communities are included in creating climate-resilient livelihoods in the rural areas. This component is key to ensuring the sustainability of the adaptation packages approach, by embedding the system of community adaptation planning and prioritization of actions into national and provincial planning and budgeting cycles. The component will also build the capacity of provincial and national actors to access and effectively use future flows of climate finance. | | |

**Output 3.1: Adaptive local governance systems strengthened through sub-national planning**

**Climate change rationale**

**All impacts of climate change are relevant to this output as all of them need to be considered in sub-national planning, both on the short term (climate variability, extreme weather events) and in the long term (slow onset impacts like sea level rise and changing rainfall patterns).**

Government policy calls for the inclusion of climate and disaster risk into government budgeting and planning processes. Simultaneously, in the projected climate context, limited government resources for disaster response will be increasingly in demand, and sub-national authorities are challenged by financial and human resource constraints. To address the extreme vulnerability of the population, effective and transparent mechanisms for resourcing adaptation activities need to be further developed.

VCCRP will address the barriers to fulfilling established policy, through strengthening sub-national capacity, planning and financial management. The VCCRP approach is designed to result in governance systems that will support climate adaptation, fortify the most vulnerable communities and sustain local resilience.

The project aims to support the Government of Vanuatu's commitment to social inclusion and gender mainstreaming, particularly for under-represented groups. The impacts of climate change disproportionately impact vulnerable groups, including women, children, elderly, infirm, and people with disabilities. Vulnerable groups face multi-faceted (social, economic, cultural, etc.) and intersectional (age, race, religion, class) challenges. This unequal burden and differentiated impact are influenced by multi-faceted and intersectional dynamics. Project activities will systemically and explicitly consider the impact of gender and social inclusion principles, including gender-responsive budgeting and planning, and the full and inclusive participation of Vanuatu's most vulnerable groups.

As part of a comprehensive approach, VCCRP will support sub-national planning processes by providing decision-makers with climate and disaster risk information, such as coastal erosion and flood inundation, to develop evidence-based recommendations. The assessment of community-level needs by VCCRP-trained CDCCCs economises limited government resources while also improving the timeliness and effectiveness of adaptation planning and disaster response. The CDCCCs will provide key support in assessing community adaptation needs, motivating and managing community level adaptation/DRR actions, assessing impacts to key sectors immediately following a disaster event, and effectively reporting the assessment using the appropriate forms and communication channels.

Local authorities (i.e. Area Administrators) serve as a primary link between CDCCCs and Area Councils, which in turn link local and sub-national governance. To fortify cohesive governance and local support for CDCCC activities, and as a precursor to enhancing local-provincial-national linkages local authorities must understand the importance of, and approach to, climate adaptation activities. This project will support the training of local authorities to build local support and to create the foundation necessary for effective linkages and coherence across levels of government.

To strengthen local governance, it is important that local level plans be considered and accounted for in sub-national planning processes. The project aims to support inclusive planning and budgeting processes to effectively incorporate climate and disaster risk into sub-national (Area Council, provincial, etc.) planning processes and link to CDCCC activities. The project will also support the development of financing mechanisms to support sub-national year-round adaptation activities according to Provincial and Area Council objectives. Better integrating climate change risks and resilience building into work plans and budget processes will support financially sustainable adaptation action at all levels.

At the CDCCC, Area Council and Provincial levels, capacity can be increased through the exchange of knowledge, experiences and lessons learned. This project will increase local capacity by facilitating vertical (across levels of local leadership/authorities) and horizontal (across communities) learning exchanges. The

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| exchange of knowledge will maximize the benefit of project activities by allowing additional communities and levels of government to learn from the experiences and knowledge of others. By explicitly valuing and facilitating the exchange of traditional knowledge, local adaptive capacity and resilience to climate impacts will be further fortified. | | |
| **Activity** | **Activity description** | **Sub-Activities** |
| Activity 3.1.1<br>Support Area Council and Province officials to incorporate climate risk analysis and financing strategies into Area Council development plans and budgets | Activity 3.1.1 will enable subnational officials to incorporate climate risk analysis (such as vulnerability mapping) into Area Council development planning and budgeting, and will incorporate assessment findings from Activity 1.2.2. Gaps and barriers to integrating climate risk into local development processes will be identified and addressed through the development of tailored technical trainings to Area Council members, provincial government officials, and other relevant stakeholders. In-person instruction with field demonstration will be coupled with ongoing technical support and resources to both operationalize training materials as well as assist with new or updated climate risk assessments when necessary. Continuity with development of Community Adaptation Plans from Activity 1.2.3 will be ensured to avoid duplication, contradictions, or inconsistent budgeting. Additional technical support and resources will be provided to Area Councils and provincial government officials to enable assessment of gender gaps (including existing gender and social deficits, best practices to reduce gaps, and recommendations moving forward) through gender-responsive climate change budgeting and planning. | 3.1.1.1 Consolidate and synthesise community analyses (from 1.2.2) to develop Area Council level vulnerability mapping to inform planning and adaptation action<br>3.1.1.2 3.1.1.2 Identify and address gaps in the integration of climate risks and adaptation actions into Area Council planning and budgeting processes<br>3.1.1.3 3.1.1.3 Provide training and capacity building to Area Council representatives and technical advisory groups on the integration of climate change risks and adaptation actions into planning and budgeting processes (including gender-based risks of climate change)<br>3.1.1.4 3.1.1.4 Provide technical assistance/ resources to subnational officials to undertake new/ updated assessments of climate and disaster risk to inform Area Council development plans and budgets<br>3.1.1.5 3.1.1.5 Facilitate linkages between Area Council development plans and Community Adaptation Plans to avoid duplication or contradictions, and ensure consistent planning and budgeting<br>3.1.1.6 3.1.1.6 Provide technical assistance/resources to local and sub-national government (Area Councils, provincial government) to assess gender gaps through gender-responsive |

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| | | and inclusive climate change budgeting and planning |
| Activity 3.1.2<br>Build the capacity of local authorities to support operations of the CDCCCs and ongoing inclusive local adaptation planning processes | Activity 3.1.2 will strengthen the capacity of local authorities (including Area Councils and CDCCCs) to carry out inclusive and effective adaptation planning at the local level. In partnership with the DLA, a diagnostic instrument will be developed and implemented to assess the capacity of Area Council officials and identify knowledge gaps, interests, and opportunities. Incorporating results from the assessment, as well as findings from Activity 1.2.1 and 1.2.2., a suite of technical training materials will be developed to address key competencies through a digitized train-the-trainer approach. Opportunities to bolster formal linkages between Area Councils and CDCCCs will be incorporated into capacity assessments and training materials to support increased communication and engagement. Ongoing support will be provided to local authorities to encourage and enable the inclusion of sustainable budgeting for CDCCCs as a component of Area Council Development Plans. | 3.1.2.1 Undertake an assessment of Area Council capacity to support local adaptation action and identify resource constraints and needs<br>3.1.2.2 Building on 1.2.1 and 1.2.2, roll out further training to build capacity of Area Councils to support the ongoing operations of CDCCCs<br>3.1.2.3 Assess the status of formal links between Area Councils and CDCCCs and support increased communication and engagement<br>3.1.2.4 Support the inclusion of sustainable budgeting for CDCCCs in Area Council Development Plans |
| Activity 3.1.3<br>Support NDMO to design and establish a shock-responsive social protection system designed for the needs of the most vulnerable households | Activity 3.1.3 will utilise co-finance from Australia's Department of Foreign Affairs and Trade to provide technical assistance to the National Disaster Management Office for the design of a government owned, shock-responsive social protection initiative. NDMO will be supported through a technically specialised procured party to develop and pilot locally appropriate targeting criteria based on needs (including inputs from Activity 1.2.2) and triggers determined by national-level indicators of shock such as drought and rainfall or local-level knowledge of community-specific shocks. The targeting criteria will be used to register the most vulnerable children and households in communities. Targeting criteria combined with trigger indictors will form the underlying framework for the system which in turn will further strengthen sub-national CIS and EWS systems (including via output 1.3). The system consists of providing primarily unconditional cash transfers for time-delimited consumption support in times of acute needs and stress. Delivery will occur through physical payment, vouchers or mobile money, to be determined during the design phase. Upon the occurrence of a shock (sudden or slow-onset), activation of immediate cash transfer to registered households, possibly even before disaster occurs based on seasonal weather forecasting will enable households to prepare for shocks (natural hazards) or climate induced stress and address immediate needs before household resilience is | 3.1.3.1 Provide technical assistance to the NDMO to design a government owned, shock-responsive social protection initiative aligned to strengthened sub-national CIS and EWS systems (linked to output 1.3).<br>3.1.3.2 Develop locally appropriate targeting criteria to register the most vulnerable children and households in communities (linked to 1.2.2).<br>3.1.3.3 Establish a framework for a cash transfer system. |

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| | eroded. The activity will include the generation of evidence and learning to understand perceptions of cash transfers including acceptability and accessibility of cash transfer mechanisms and targeting criteria. Note the activity exclusively focused on designing and establishing the system and will not include cash payments as that is out of the scope of this project. | |

**Output 3.2: Enhanced local-provincial-national linkages through knowledge management and creation of feedback loops**

**Climate change rationale**

**All elements of climate change are relevant to this output. Experiences to be shared between levels of government and communities should encompass the full range of climate change impacts.**

While climate change is a global phenomenon, the nature of its impacts and severity varies significantly across locations, requiring sub-national and community level stakeholders to take an active role in building adaptive governance systems. This is also the case of climate change adaptation, where subnational and local authorities can better manage adaptation challenges such as flood risk and water stress, or assess local hazards and vulnerability. Subnational and local level governance systems are often better placed to provide actions and policies tailored to people's needs, with an easier identification of priorities and difficulties as they are usually closer to the places and citizens impacted by climate change than national government.[12]

As in many countries, in Vanuatu the national government plays a key role in adaptation planning and implementation, while adaptation responses have diverse processes and outcomes at the subnational and local levels. National governments assume a coordinating role of adaptation actions in subnational and local levels of government, including the provision of information and policy frameworks, creating legal frameworks, actions to protect vulnerable groups, and, in some cases, providing financial support to other levels of government.

With the increasing number of climate change adaptation projects being implemented across the country, subnational and local government officials are often confronted by the complexity of adaptation without adequate access to guiding information or data on local vulnerabilities and potential impacts. Even when information is available, they are left with a portfolio of options to prepare for future climatic changes and the potential unanticipated consequences of their decisions. Therefore, linkages with national and subnational levels of government, as well as the collaboration and participation of a broad range of stakeholders, are important.[13]

Additionally, there is a widening gap between evolving local CCA needs and realities and national policy and planning processes resulting from poor coordination between siloed sectors and fragmented development efforts across government, ongoing delays in accessing climate finance to operationalise standardised climate vulnerability assessment frameworks, failure to adequately mainstream climate change and disaster risks across government vertically, and increased demand for limited resources within and across government to address local adaptation challenges in a coordinated and strategic manner.

[12] IPCC (2014). National and Sub-national Policies and Institutions. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change*. Available: here.
[13] IPCC (2014). Adaptation planning and implementation. In*: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Available: here.

| The outcome of this project component is institutional adaptive capacity is enhanced by building adaptive governance systems at the local level and enhancing local-provincial-national linkages. | | |
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| **Activity** | **Activity description** | **Sub-Activities** |
| Activity 3.2.1<br>Capture lessons learned, emerging themes and best practices at the community level to ensure sub-national and national planning processes are informed by local needs and that local actions support national objectives | Activity 3.2.1 will promote national and sub-national planning processes that are informed by community level experiences (such as capturing lessons learned, emerging themes and best practices) and that community-level actions are in support of national public policy objectives. Periodic evaluations will be carried out to assess progress against key outcome/performance metrics, as well as document lessons learned on the successes and challenges of project implementation. Bespoke knowledge management products and resources will be produced to communicate the insight and knowledge gleaned from evaluations (including impact assessments) directly to national stakeholders (including NAB Secretariat, MoCC, and PMO) involved in climate change governance and planning. Participation of community champions in national and regional forums on climate change adaptation governance (such as Pacific Resilience Partnership events and national climate change adaptation planning workshops) will be supported as a means of increasing communication and linkages between community-level and national stakeholders. Dissemination of knowledge management products will occur in all three national languages (including English, French, and Bislama) to ensure inclusivity of all stakeholders. Additionally, knowledge management resources will be produced in multiple mediums (including text, video, audio, and interactive media) to further ensure inclusivity of people with disabilities to benefit. Linkages to international adaptation knowledge bases (including the FRDP and the Nairobi Work Programme) will be assessed through a comprehensive stocktake of relevant community-based adaptation frameworks, appraised against relevant project outcomes, followed by communicated/demonstrating these linkages in knowledge management products. | 3.2.1.1 Produce knowledge management products that capture and emphasise local needs to national stakeholders directly involved in the production of high-level adaptation planning processes (Updated NDC, NAP development, UNFCCC reporting)<br>3.2.1.2 Facilitate participation of community champions and local community liaison officers in national and regional forums (Pacific Resilience Partnership, PIFS side events, national climate change conferences/events, other CBA/GCF project meetings) supported by governments and development partners. Facilitate visibility and engagement of senior officials through project site visits<br>3.2.1.3 Disseminate knowledge management products (participatory tools, videos, project reports, technical toolkits) that are translated in all three national languages to encourage meaningful consideration and usage at local level<br>3.2.1.4 Increase the global adaptation knowledge base by linking project outcomes to national, regional and global processes |
| Activity 3.2.2<br>Support local authorities in monitoring and evaluation of national CCDRR policies at the local level and increasing | Activity 3.2.2 will support monitoring and evaluation of the national sector policy on climate change and disaster risk reduction, further aiming to strengthen linkages and communication between local, provincial, and national stakeholders. Subnational government (including Area Council and provincial officials) will be supported towards establishing systems to support reporting on implementation of the national CC & DRR sector policy within | 3.2.2.1 Establish a system to support sub-national authorities (provincial staff, Area Council, Area Administrators/Liaisons) with reporting on implementation of national sector policy in their respective local boundaries |

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| dialogue between stakeholders at all levels | local stakeholders' respective subnational boundaries. In partnership with civil society (including VCAN), participatory events will be facilitated between national and subnational stakeholders (including government, private sector, and non-governmental organizations) to discuss actions to increase emphasis on long-term, community-level priorities within national and subnational planning and budgeting processes. | 3.2.2.2 Facilitate meetings between national and sub-national government stakeholders, including non-governmental actors, to discuss actions to increase emphasis on long-term community-level priorities within national and subnational planning and budgeting processes; coordinated with VCAN activities |

## 7.3. Beneficiary selection

### 7.3.1. Direct Beneficiaries

The VCCRP project has undertaken a rigorous and transparent process in conjunction with stakeholders to identify target communities and therefore the project beneficiaries. A summary of the process can be found in **Figure 27**.

All Area Councils in the six Provinces of Vanuatu were assessed and ranked for their relative vulnerability to climate change (**Section 5.3**). The results of the national vulnerability assessment formed the basis for engaging with national and sub-national government to finalise the selection of Area Councils that will be targeted for VCCRP project activities. The selection of target beneficiaries focused on those Area Councils in each Province that were assessed as being highly vulnerable to climate change through the national assessment.

The national vulnerability assessment provides an objective and transparent basis for identifying vulnerable Area Councils and therefore potential project beneficiaries. Relative vulnerability however is not the only consideration, and other factors are also relevant when selecting beneficiaries. Through further stakeholder consultation, additional information was collected on each Area Council to inform selection of direct beneficiaries for the project.

The results of the national vulnerability assessment formed the basis for engaging with national and sub-national government to incorporate data on existing projects and government priorities, to inform selection of Area Councils that will be targeted for VCCRP project activities. The selection of target beneficiaries considered the following criteria:

- Current enabling activities (i.e., whether there are existing or emerging community-based projects) in each Area Council;
- Recent or current projects that may duplicate effort in each Area Council;
- Alignment with government policy and/or priorities (i.e., how potential VCCRP activities align with government priorities); and
- Affordability (based on accessibility) of working in each Area Council.

These four criteria were considered as a filter to review the ranked Area Councils from highest vulnerability to lowest to select the Area Councils for the project to target, with Area Councils not included in the project if they did not meet these criteria (**Table 13**).

***Table 13.*** *Target Area Councils selected; light grey rows indicate those Area Councils not being targeted in accordance with criteria*

| Vulnerability Ranking | Area Council | Rationale (for non-inclusion) |
|---|---|---|
| 1 | Aneityum | |
| *2* | *West Santo* | *VCAP 2 project site* |
| *3* | *Torres* | *VCAP1/VCAP2 project site, Van-KIRAP agri-met site* |
| 4 | Makira/Mataso | |
| 5 | Ureparapara | |
| 6 | Big Bay coastal (nee North Santo) | |
| *7* | *Big Bay Inland (nee North Santo)* | *VCAP2 project site* |
| 8 | South West Tanna | |
| 9 | Emae | |
| *10* | *Merelava (incl. Mérig)* | *High cost to population ratio* |

| | | |
|---|---|---|
| 11 | North West Santo | |
| *12* | *Aniwa* | *VCAP1, Pathways projects site* |
| *13* | *Futuna* | *VCAP2, Pathways projects site* |
| *14* | *Yarsu (nee South Epi)* | *VCAP2 project site* |
| *15* | *Mota* | *VCAP2 project site* |
| 16 | West Malo | |
| 17 | South Santo 1 | |
| *18* | *South Santo 2* | *VCAP1 project site* |
| 19 | Central Tanna (nee Middle Bush) | |
| 20 | Motalava (incl. Rah Reef) | |
| 21 | North Ambrym | |
| *22* | *East Tanna (nee Whitesands)* | *PEBACC1, PEBACC2 projects sites* |
| 23 | Central Pentecost 1 | |
| 24 | South Pentecost | |
| 25 | North East Malekula | |
| 26 | Varsu | |
| 27 | North West Malekula | |
| 28 | South East Ambrym | |
| 29 | Vermaul | |
| *30* | *South Tanna* | *VCAP2, FAO-GEF6, Pathways projects site* |
| 31 | West Tanna | |
| 32 | Nguna/Pele | |
| *33* | *South Maewo* | *VCAP2 project site* |
| 34 | Tongariki/Buninga | |
| 35 | Central Pentecost 2 | |
| 36 | Paama | |
| *37* | *Tongoa* | *FAO-GEF6 project site* |
| 38 | Central Malekula | |
| 39 | North Maewo | |
| 40 | South West Malekula | |
| 41 | South East Malekula | |
| *42* | *South Erromango* | *Van-KIRAP agri-met site* |
| *43* | *East Gaua* | *Pathways project site* |
| 44 | West Gaua | |

Based on this process, 90,157 direct beneficiaries will be reached (ca. 33% of the total population or 44% of the rural population) representing the total population of the Area Councils selected. Through scaling-up driven by sub-national government, an additional 110,000 indirect beneficiaries (ca. 40% of the total population) will be reached (**Table 14**). This reflects the goal of the project to build climate resilience in the most vulnerable rural communities. The beneficiary selection process is outlined in **Figure 27**.

***Table 14.*** *Direct beneficiaries per Province*

| | # targeted Area Councils | # targeted people | Communities (#)* | # targeted households |
|---|---|---|---|---|
| **Tafea** | 4 | 21,534 | 51 | 3,868 |
| **Sanma** | 4 | 10,618 | 37 | 2,325 |
| **Torba** | 3 | 3,361 | 15 | 924 |
| **Shefa** | 6 | 7,912 | 35 | 2,035 |
| **Malampa** | 8 | 33,301 | 99 | 7,397 |
| **Penama** | 4 | 13,431 | 45 | 3,007 |
| **TOTAL** | **29** | **90,157** | **282** | **19,556** |

*Community numbers are estimated from Vanuatu National Statistics Office data as they are not reported in the census. A range of very small villages have been combined with neighbouring villages to form communities for the purposes of effective project implementation and service delivery.

### 7.3.2. Indirect Beneficiaries

While direct beneficiaries will be the focus of support to implement adaptations, the capacity building in sub-national and national government and the systems established will facilitate scaling-up of project adaptations and resources to many more indirect beneficiaries (refer to **Section 12**). The indirect beneficiaries will be 110,000 people, including in Area Councils with lower relative vulnerability and peri-urban areas, who will be reached through up-scaling of adaptations by the Area Council and other government structures, and through delivery of CIS and DRR outreach.

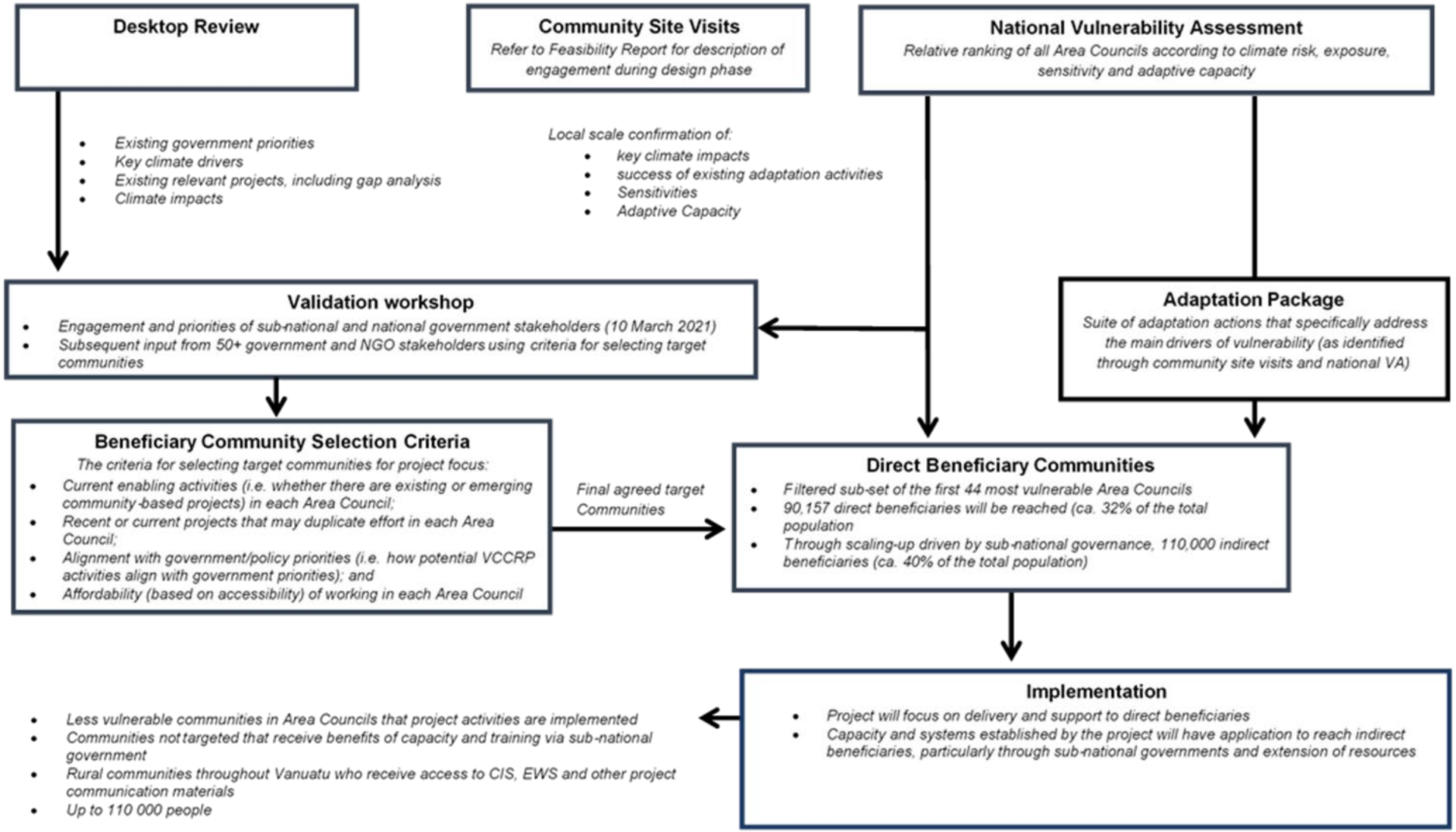


***Figure 27.*** *Beneficiary selection and prioritisation*

## 7.4. Stakeholder engagement during implementation

Stakeholder engagement during implementation will allow for local tailoring of the implementation and sustainability approach in each unique community. During implementation detailed community stakeholder engagement in each targeted community will be undertaken to identify the most appropriate ways for local level implementation to take place, building on a range of existing analyses and assessments undertaken by government and previous projects.

Implementation arrangements should engage partners with a track record of working with communities in each particular province. Expertise in gender equality and disability inclusion may need to be centralised through organisations such as Vanuatu Disability Promotion and Advocacy Association (VDPA) (disability inclusion) and Care (family teams).

The mode of consultation will vary according to the participants, but in all cases will promote participation by ensuring that the venue is culturally appropriate and accessible for all groups (including persons with disability), the timing convenient and the manner of conduct of the consultation socially and culturally appropriate. Where required separate consultations will be held for women and for youth. Consultations will be announced to give sufficient notice for participants to prepare and provide input to project design.

Proposed implementation engagement strategies include:

- Participation in project implementation including awareness raising, access to CIS, and enhancing local-provincial-national linkages;
- Participation in project implementation including consultations on community management plans, and technical support and staff training provided to local extension services;
- Representation on the project Reference Group that meets quarterly during implementation to provide oversight and guidance to the project;
- Consultations when developing and implementing interventions, as required;
- Participation in awareness raising;
- Consultation on the design of community management plans and, in some areas, implementation of management plans;
- Technical support and staff training provided to local extension services;
- DRR technical support and training; and
- Oversight of government project budget management and procurement.

### 7.4.1. Mainstreaming consultation

Mainstreaming of consultation during project implementation will include:

- Gender balance and participation of people with disability;
- All project staff trained in gender equality and social inclusion;
- Train-the-trainer and family teams approach;
- At least one full time GESI/ESS technical adviser and additional technical support on disability inclusion, with experience in analysis, planning and monitoring. The adviser must be able to mentor and train government counterparts at MoCC, MALFFB, and province and area level;

- Project communications should be designed to challenge social norms. For example by using appropriate language; and showing women, people with disability in active leadership roles; and
- Translation of all products into Bislama (and any other of the three national languages as required).

### 7.4.2. Education and training

Education and training are an important component of many project activities. Education and training will be gender balanced and include active participation of people with disability. Working with women and persons with disability will build their confidence and voice. Targeted education that is non-technical, relevant to the local context and reaches women, children and people with disability is required.

One of the main ways that education and training will be undertaken during implementation is via micro learning using the best available evidence on what works with adult learning in Vanuatu. Save the Children is a key partner of the Ministry of Education and Training (MoET) and will leverage these relationships to support best practice in adult learning throughout this project. Government staff will require training and mentoring in this approach. During implementation people with disabilities will be identified and supported to become local trainers and champions to increase disability inclusion.

### 7.4.3. Community engagement

Stakeholder engagement at the community level needs to be participatory and inclusive. Engagement requires gender balance and active participation by women, men, youth and people with disability.

Household economic surveys and community consultations in the early stages of the project should include female heads of household and people with disability to get a full picture of intra household resource use, work roles and workloads and to make visible women's roles in fisheries and food security.

Community engagement proposed during implementation includes:

- Surveys to identify any changes to key natural resources and climate impacts;
- Consultations to develop/revise community management plans with adaptation actions for climate-resilient food systems;
- Establish and train community committees to enforce management plans;
- Training and access to CIS;
- Train community DRR committees to enact disaster response;
- Awareness-raising on the benefits of sustainable management practices; and
- Feedback and complaints mechanisms (Grievance Redress Mechanism).

<u>Engagement at Family teams / family farms level</u>

As detailed above education and training are a key component of project activities. Community consultations will focus on a train-the-trainer approach as well as a family teams approach. Family teams work at the household level and engage male and female heads of household in planning and implementation of adaption for food and water security to ensure that women's and men's roles in agriculture and fisheries are considered. This approach also creates opportunities to address social norms about unpaid work and sharing workloads more equally. This family teams approach will require specific expertise for developing training and

mentoring/coaching of national and subnational staff. A toolkit and train-the-trainer approach have been developed by Care, ACIAR and University of Canberra and would be beneficial for use in this project.

National and sub-national government/ community liaison staff who work with communities will be trained and mentored how to use the inclusive family teams approach.

Further details of planned consultations with stakeholders during the implementation phase are shown in **Table 1 of Annex 7b**.

# 8. Governance of the project

## 8.1. Governance structure

The legal agreement between the GCF and Save the Children Australia (SCA) as Accredited Entity (AE) will be a grant agreement through a FAA. SCA, as the AE, will enter into legally binding sub-grant agreements with the Co-Executing Entities – the Government of Vanuatu, acting through its Ministry of Climate Change (MoCC), and Save the Children Vanuatu (SCV) – to deliver the agreed project activities. MoCC will enter into agreements with other Government ministries including Ministry of Internal Affairs, Ministry of Agriculture, Livestock, Forestry, Fisheries and Biosecurity, Ministry of Lands and Natural Resources, and Ministry of Justice and Community Services. Formal project agreements with other ministries will be managed through the established 'Government Investment Program' (GIP) system which outlines and formalises: (1) the project; (2) the sources and destination of funds; (3) detailed budget; (4) specifics of project objectives and activities; (5) beneficiaries; (6) monitoring mechanisms; and (7) risk and risk management. The GIP system is integrated into the Government Financial Management Information System (FMIS) and linked to the Single Treasury Account (STA) for oversight and reporting against project expenditure. Project funded activities not delivered through Government Ministries or the EEs will be undertaken through procured parties, e.g. specialised technical constancies.

Project implementation will be facilitated by the key stakeholder departments contained within the various ministries, specifically including the Department of Climate Change (DoCC), Department of Local Authorities (DLA), Department of Agriculture and Rural Development (DARD), Vanuatu Fisheries Department (VFD), Department of Water Resources (DoWR), Department of Women's Affairs (DWA), Vanuatu Meteorology and Geo-Hazards Department (VMGD), and the National Disaster Management Office (NDMO). With sub-national government officials and extension offices to deliver agreed components of the adaptation package. Save the Children Vanuatu will also deliver several activities, such as community-level adaptation actions partnering with provincial governments, private sector and civil society partners in all six provinces.

Agreements between the co-Executing Entities and beneficiary communities will be captured in the Community Adaptation Plans before investments are made in the communities. The plans are developed, finalised and agreed by the communities supported by the CDCCCs and project staff. Once agreed they are approved by the Executing Entities. Once approved, they are implemented as outlined in the plans.

Save the Children Vanuatu (SCV) and the MoCC will work with other government ministries and procured parties to deliver agreed national-level activities. Where required civil society and private sector entities will be engaged by SCV as procedure parties to deliver project activities where they have a comparative advantage in consultation with the Vanuatu Chamber

of Commerce and the Vanuatu Climate Action Network (VCAN), and in coordination with the NAB.

Co-financing from the Government of Australia will be managed through a grant agreement to SCA. A sub-grant agreement will be put in place between SCA to SCV managed through the Save the Children Award Management System (AMS). Funds will flow from SCA to SCV in the same way as all SCA to SCV projects from the SCA account in Australia to the SCV account in Port Villa. Compliance oversight and reporting is managed and documented through the AMS.

Co-financing from the Government of Vanuatu to the project is managed through the GIP system (outlined above in paragraph 85), integrated into the Government Financial Management Information System (FMIS), and linked to the Single Treasury Account (STA) for oversight and reporting against project expenditure.

The co-Executing Entities will work together through a single Project Management Unit (PMU) and technical team established in Port Vila, within the Department of Climate Change (DoCC). The PMU will maintain clear lines of communication between the project and the NDA/GoV; manage project implementation; undertake project-wide M&E; provide technical support to implementing partners on climate change impacts, adaptation and integration processes, Environment and Social Safeguard (ESS) (including monitoring the project's environmental performance and supporting the integration of gender, disability and social inclusion); lead communication and outreach activities; and lead coordination and cooperation with other projects, donors and organizations **Figures 28** and **28.1** and **Table 15**.

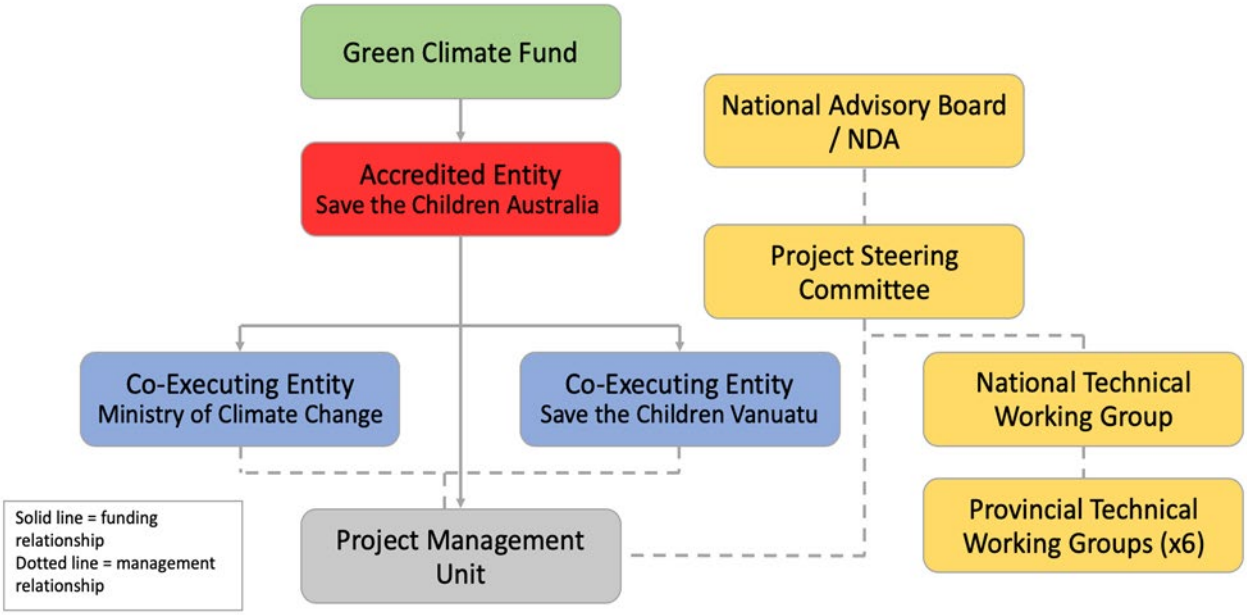


***Figure 28.*** *VCCRP governance arrangements*

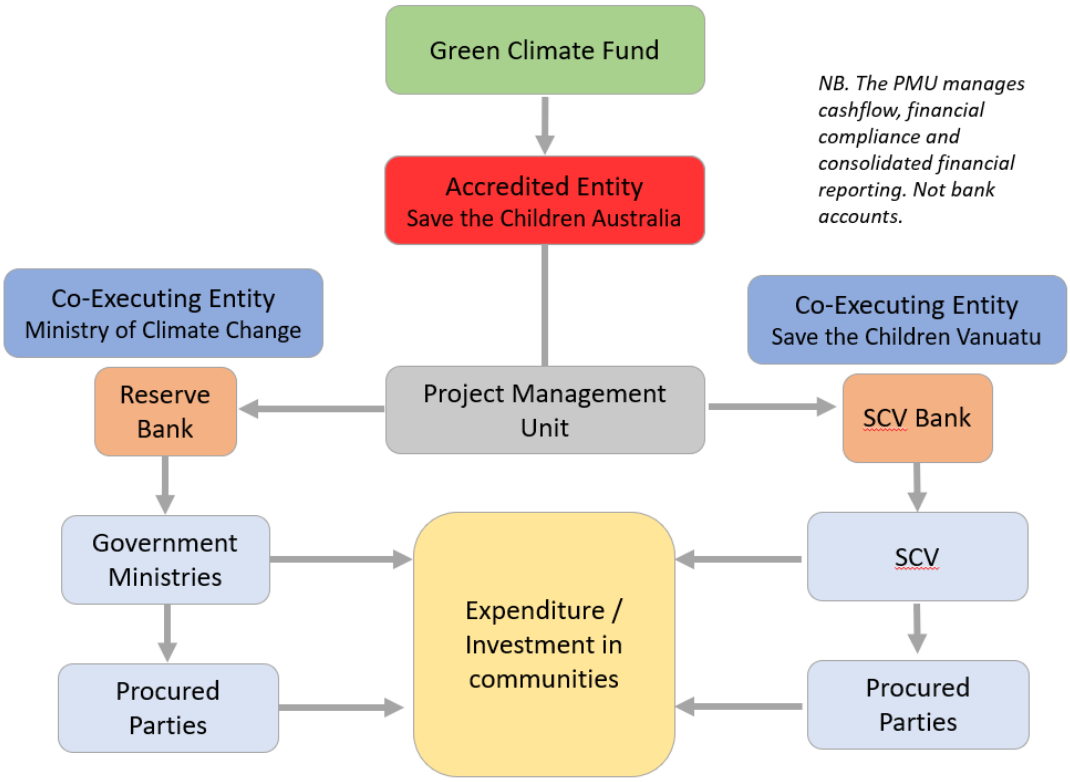


***Figure 28.1.*** *VCCRP governance arrangements*

The PMU will be led by a Team Leader reporting to the Save the Children Vanuatu Country Director and Director-General (DG) for Ministry of Climate Change. The Team Leader will manage the other PMU members including a Finance and Compliance Specialist, Procurement Specialist, Monitoring, Evaluation, Accountability and Learning (MEAL) Specialist, Environmental and Social Safeguards (ESS) and Gender Equality and Social Inclusion (GESI) Specialist, Communications Specialist, Component Coordinators and Technical Advisers.

A Project Steering Committee (PSC) will be formed and will be responsible for overall strategic oversight of the project. The PSC will support strategic high-level coordination and oversight and promote the interests of the project among senior country and regional level stakeholders. The PSC will also provide a high-level risk management function by reviewing and providing feedback on performance reports produced by the PMU. It will make decisions on critical project issues raised by Technical Working Groups (TWG's) including amendments, budget allocations and endorsing management improvement actions arising from audits and addressing serious project quality and implementation issues (including major complaints and feedback that pose a reputational risk to the project, such as sensitive safeguarding issues that cannot be addressed by TWG). Project performance reports and outcomes from PSC meetings will be shared with the NAB to promote strong coordination and transparency.

The PSC will be co-chaired by DG for Ministry of Climate Change and Country Director for Save the Children Vanuatu and will be comprised of all agency Directors involved in project implementation (DoCC, DLA, DARD, VFD, VMGD, NDMO, DoWR, DWA), Secretary Generals of provincial governments, VCCRP PMU Team Lead, and Representatives of Vanuatu

Climate Action Network and Vanuatu Business Resilience Council. It is proposed that the PSC will meeting twice each year (with extraordinary meetings called as required).

The NDA for Vanuatu is the Director General for the Ministry of Climate Change (DG MoCC). As the MoCC is also the EE the DG MoCC has both NDA and EE accountabilities. However, the work of the DG MoCC as NDA is governed by the National Advisory Board (NAB) which is the decision-making mechanism. The NAB is chaired by the DG MoCC but is a whole of government body with representative from across Ministries. The role of the DG MoCC as EE for the project is governed by the PSC with oversight for the Minister of MoCC. Conflict of interest is avoided by both mechanisms being mandated as multi-stakeholder decision making bodies.

The PSC shall report and provide updates to the NAB when it meets 3-4 times per year. The NAB is responsible for bringing leaders of government and non-government organisations across all sectors together to promote greater levels of coordination among the many individual climate change and disaster risk reduction projects. The NAB remains independent of the VCCRP and the project will support the functionality of the NAB through technical support to the NAB Secretariat and ensure the PSC is accountable to the NAB throughout the project duration.

A National Technical Working Group (NTWG) will be established to provide operational and technical oversight during implementation of the project. The NTWG will meet quarterly to provide feedback to the PMU on project performance reports, review and approve project documents prepared by the PMU and to address critical issues, discuss and provide feedback on recommendations from provincial technical working group meetings and address major operational and project quality issues impacting delivery (including significant complaints and feedback from communities and project stakeholders). The NTWG will be comprised of technical implementing officials from key government and non-government agencies (not senior management / Director level positions).

Provincial Technical Working Groups (PTWG) will also be formed in each province. This body will replicate the function of the NTWG at the provincial level and will provide bottom-up feedback on project quality and implementation issues to the NTWG. This group will also meet on a quarterly basis and will be co-chaired by the Provincial Secretary Generals and the Save the Children Provincial Program Manager. The PTWGs will be comprised of the members of the provincial Technical Advisory Commissions (TAC) and attended by relevant provincial authorities such as Area Administrators and Community Liaison Officers as required

The proposed implementation structure for project operations is provided in **Figure 29**.

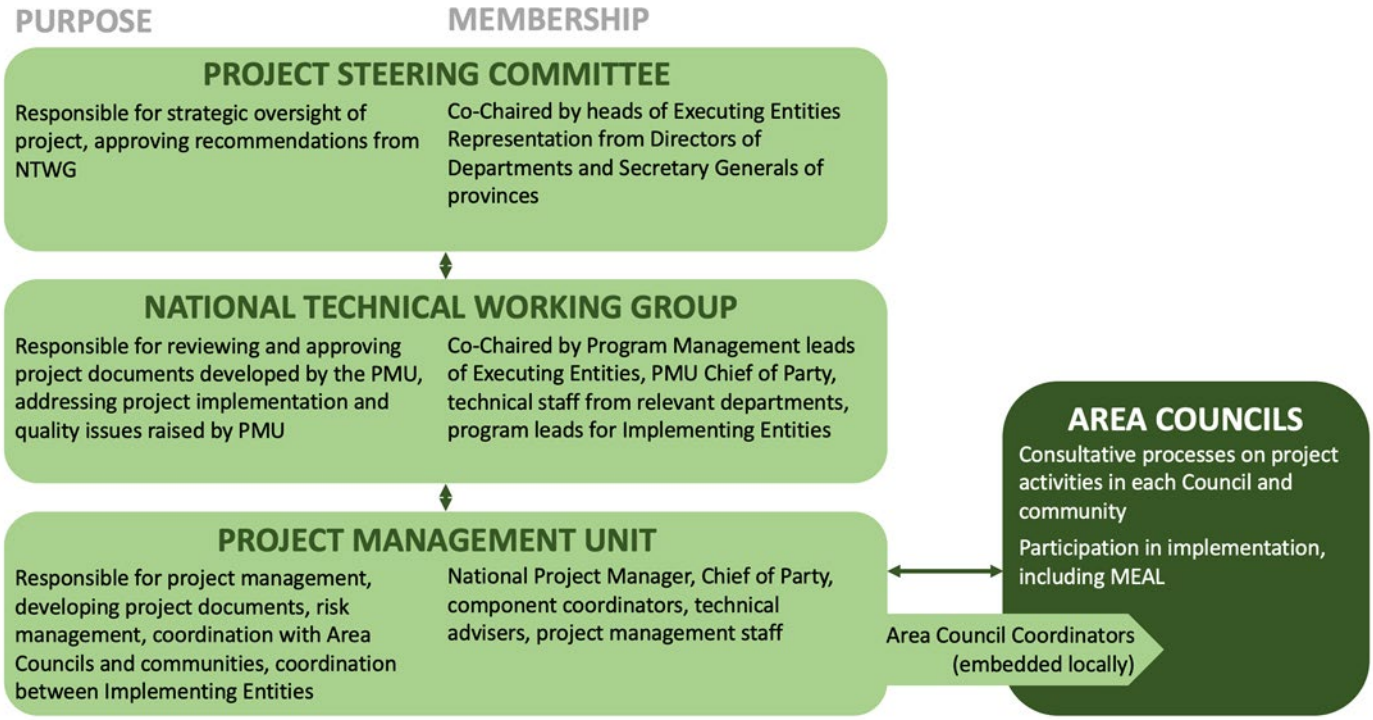


***Figure 29.*** *Project implementation structure*

***Table 15.*** *Implementation roles and governance arrangements*

| Mechanism | Membership | Purpose | Frequency of meetings |
|---|---|---|---|
| National Advisory Board | See NAB structure | The NAB is intendent of the VCCRP project but responsible for bringing leaders of government and non-government organisations across all sectors together to promote greater levels of coordination among the many individual climate change and disaster risk reduction projects and to ensure high levels of transparency in the determination of ongoing priorities and funding | Quarterly (at least three meetings per year) |
| Project Steering Committee | Co-chaired by DG MoCC and Country Director for Save the Children Vanuatu.<br><br>DGs and relevant Directors of MoIA, MoCC and MFEM<br><br>1-2 SGs of provinces (on a rotating basis) | The PSC is responsible for overall strategic oversight of the project. The PSC will support strategic high-level coordination and oversight and promote the interests of the program among senior country and regional level stakeholders. The PSC will also provide a high level risk management function by reviewing and provide feedback on performance reports produced by the PMU and make decisions on critical program issues raised by the TWG including amendments, budget allocations and endorsing management improvement actions arising from audits and addressing serious program quality and implementation issues (including major complaints and feedback that pose a reputational risk to the program such as sensitive safeguarding issues) that cannot be addressed by the TWG. Program performance reports and outcomes from PSC meetings will be shared with the NAB to promote strong coordination and transparency. | Quarterly |
| National Technical Working Group | Co-Chaired by Director for MoCC and the VCCRP Team Leader<br><br>Directors and relevant technical Officers and/or Directors for Agriculture, Fisheries, VMGD, DoCC, DESPACC, Finance, | The NTWG provides operational and technical oversight over the implementation of the project. The NTWG will provide feedback to the PMU on project performance reports, review and approve project documents prepared by the PMU and address critical issues, discuss and provide feedback on recommendations from provincial | Quarterly |

| | | | |
|---|---|---|---|
| | NDMO and DLA<br><br>SGs of provinces<br><br>2-3 Area Council representatives (on a rotating basis) | technical working group meetings and address major operational and program quality issues impacting program delivery (including significant complaints and feedback from communities and project stakeholders). | |
| Provincial Technical Working Groups | Co-Chaired by the SG of the Province and the VCCRP Provincial Program Coordinator<br><br>Provincial and area council level technical officers across agriculture and fisheries, Area Administrators and Area Secretaries, DLA representatives | The Provincial Technical Workings Groups replicate the function of the technical working group at the provincial level and provide an important avenue for bottom-up feedback on program quality and implementation issues to the NTWG. | Quarterly |
| Program Management Unit | Led by the VCCRP Team Leader reporting to the Save the Children Country Director and DG for Ministry of Climate Change. The PMU will be located within DoCC.<br><br>The Team Leader will line manage the other PMU members including a Finance and Compliance Specialist, Procurement Specialist, MEAL Specialist, ESS Specialist, Communications Specialist, Component Coordinators and Technical Advisers | The PMU is responsible for the day-to-day technical support and coordination between government ministries and departments at national, provincial and area council level to ensure project plans are implemented in line with project documents approved by the NTWG and in line with the compliance requirements of the GCF, AEs and Government of Vanuatu | Weekly |

### 8.1.1. Accredited Entity capacity: experience and track record

Save the Children is the world's leading independent organisation for children, with 30 national organisations working together to deliver programs in more than 120 countries. In 2019, Save the Children delivered programs worth over USD 2.2 billion across 117 countries and directly reached over 38.7 million children. Our vision is a world in which every child attains the right to survival, protection, development and participation. Our mission is to inspire breakthroughs in the way the world treats children, and to achieve immediate and lasting change in their lives. Globally, Save the Children is implementing a portfolio of 100+ resilience-related projects and programmes valued at more than USD 200 million, including those with explicit objectives to reduce climate and disaster risks, as well as to increase adaptive capacity and speed recovery from shocks and stresses, as well as those which seek the social and economic empowerment of women and youth and the amplification of the voices of the most marginalised.

Save the Children Australia (SCA) was accredited to the GCF in November 2019 on behalf of the global Save the Children movement. SCA were chosen to lead on the GCF for Save the Children due to our longstanding leadership role in climate change and Disaster Risk Reduction. The Accreditation Master Agreement (AMA) was made effective in May 2020.

SCA has extensive experience of designing, delivering, evaluating and documenting approaches to community-based adaptation, including in Vanuatu, where we have worked for more than 25 years. Our approach is to support governments to deliver against their adaptation policy objectives and needs bringing a consultative approach to engaging a broad range of stakeholders, including communities, in the design of climate change interventions.

### 8.1.2. Executing Entities capacity: experience and track record

The project will have two Executing Entities: the Vanuatu MoCC and Save the Children Vanuatu. Both entities have extensive experience in managing and delivering climate change programs across Vanuatu at a range of scales and from a variety of funding sources (including the Global Environment Facility (GEF), the Climate Investment Funds (CIF), the Australian aid program, the World Bank and the GCF). Save the Children Vanuatu is managed by Save the Children Australia and utilizes the AE's systems and processes. The Vanuatu MoCC is the co-executing entity for GCF FP035 (via the Department of Meteorology and Geohazards) and is the executing entity for a number of donor-funded projects, including via the GEF. A review of climate public expenditure and institutional governance in 2014 identified several gaps in the delivery of climate change investment in Vanuatu, particularly as the newly established Ministry of Climate Change had not administered any climate change projects. Since then, the government has made a concerted effort to address any capacity shortfalls, particularly focusing on the recommendations of the capacity assessment that suggested medium- and long-term actions to improve the governance of climate change and DRR funding through institutional capacity building. These actions have been supported by the dedicated M&E Unit within the Prime Minister's Office and significant progress and improvements have been made in the country's capacity to deliver large-scale climate change projects.

To ensure that the project can commence on time and meet agreed timelines and milestones, SCA will work closely with the co-Executing Entities to ensure that processes and approvals are in place at all levels. Save the Children has a history of delivering quality projects across a range of sectors in Vanuatu. Key government partners have staff in place within each province who can be mobilised to support project start up. Existing networks and relationships at the province level will ensure a smooth start up and on-time implementation. Further, the project has been designed to prevent over burdening any one government delivery partner to

avoid straining absorptive capacity and creating capacity constraints that delay project implementation. This is a key lesson from the implementation of a range of previous projects, including FP035. Working with a range of relevant departments will ensure no one department creates funding bottlenecks as has been the experience with some previous projects. The project will also provide direct technical assistance to Government departments and other delivery partners and will be supported through Save the Children's systems and national footprint. The breadth of the project will also help ensure community capacity is not overwhelmed. Working across all six provinces will enable us to spread the investment across space and time.

## 8.2. Financial management

Fiduciary arrangements will follow a decentralized model, that involves SCA providing direct funding tranches separately to both co-Executing entities, the Ministry of Climate Change and Save the Children Vanuatu, following endorsement of work plans and budgets by the PSC and the NAB. Once funding is received by the Vanuatu National Government from the AE via the Reserve Bank of Vanuatu, a decentralized financial management approach will be utilized, where each separate government agency will receive its own budget / appropriation following established work plans and will be responsible for reporting to the PMU at the Ministry of Climate Change for all expenditure. Existing administrative structures for reporting against funds received would be distributed across pre-existing line Ministry structures located in the Corporate Service Units of each Ministry (as opposed to being centralised in one unit only). This is the approach used by other programs such as the European Union Budget Support, as it significantly reduces the overall administration costs of the program and aligns with the intent of the Vanuatu Public Finance and Economic Management (PFEM) Act 2009.

Funding received by Save the Children Vanuatu would be used for implementation of its work plan and programming, including the engagement of procured parties, as approved by the PSC and NAB.

**Legal implications**

There would not be any significant legal issue with this position as each service delivery unit would in effect be responsible for the fiduciary oversight of the resources allocated to them. This is aligned with the intent of the Vanuatu PFEM Act.

**Transparency implications**

A decentralised model allows for coding of project activities at a higher level in the chart of accounts and as a result the Financial Management information System general reporting system would be able to produce the financial reports required without additional analysis and manipulation.

This model also provides a better representation of project spending as expenses are shown alongside other sector spending, which increases transparency and understanding of how these funds are being utilised compared to funds from other donors and the Government budget. The funds would also be more visible to the responsible line Ministries who can view their budget and manage the budget used for the project activities they are expected to deliver.

### 8.2.1. Administrative burden

A decentralised approach can be more administratively cumbersome as it entails multiple spending units across the Government, however, these units already exist within the Corporate Service Units of each Ministry. Therefore, no new structures or work units need to be established in terms of funds administration and the workload would be distributed across

pre-existing line Ministry structures. This is the approach already in use by other programs such as the European Union Budget Support as it significantly reduces the overall administration costs of the project.

### 8.2.2. Control

As mentioned above, a decentralised model allows more efficient coding of the project activities in terms of their alignment with the overall "funds control" of the Government system. By spreading the funds allocation across Ministries the project can use higher parts of the coding structure (program, activity, and cost centre) for which there are strong financial controls already in place that would prevent overspending or any one component of the program adversely affecting another.

### 8.2.3. Alignment with government and donor policies

A decentralised model is aligned with Government and donor policies and allows for an accurate representation of project resources by sector and such reports could be produced using the pre-existing government reporting tools and templates without the need to extract and manipulate data externally. It is also aligned with recent Government declarations to provide a greater alignment of donor and Government resources in terms of how they are operationalised and reported on by sector.

### 8.2.4. Performance management

A decentralised model enables the project to link seamlessly into the Vanuatu Government's system of performance management and reporting. Under program budgeting, each agency of Government is required to publish a "narrative" that accompanies the budget report. This forms part of the presentation of the budget to the Parliament, and importantly contains service delivery or output and outcome targets. Each agency is then obliged to report on these targets. Hence, the project will use a decentralised financial model to link into the performance management reporting of Government, thereby removing duplicate reporting.

# 9. Monitoring and Evaluation

The project monitoring and evaluation (M&E) plan is designed to measure two main areas: progress towards project objectives and the Resilience Framework, and contributions to key GCF Investment Criteria and the Adaptation Performance Measurement Framework. The full M&E plan for this project will be developed during the project inception phase (within the first six months of project implementation).

Project-level M&E will be undertaken in compliance with the Save the Children M&E framework as well as align to the GoV National Planning Framework (NPF) and National Monitoring and Evaluation Policy (MEP) to ensure complementarity with existing government systems and reporting processes. The plan will be developed with the new project M&E staff in collaboration with M&E staff from the Save the Children Australia support team, government agencies, and local partners. In this section, we have outlined some of the key features and skeleton of the M&E plan that will be further developed at the initial stage of the project implementation.

## 9.1. Monitoring

Setting up the monitoring system of the project will involve different steps. The primary responsibility for day-to-day project monitoring and implementation rests with the Project Manager. The Project Manager in consultation with key stakeholders will develop annual work

plans to ensure the efficient implementation of the project. An organization of a project inception workshop is vital towards this end. A project inception workshop, involving the SCA, the co-Executing Entities (MoCC & SCV) and other key stakeholders will be held within the first six months of the project. The overarching objective of the inception workshop is to: a) assist the Project team and stakeholders to understand and take ownership of the project strategy, objectives and outcomes and discuss any changes in the overall context that influence project implementation; b) discuss the roles, support services and complementary responsibilities of the project team and the national government ministries including reporting and communication lines and conflict resolution mechanisms; c) review the results framework, re-assess baselines as needed, and discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E plan. This will be followed by a production of inception workshop report no later than one month after the inception workshop documenting all changes and decisions made during the inception workshop to the project planned activities, budget, results framework, and any other key aspects of the project.

The theory of change further developed and validated during the project inception workshop will be used to identify impact pathways and develop and identify key indicators for monitoring, data needs, prioritize data collection steps, and provide a structure for data analysis and reporting. A project results monitoring plan which is provided below following the GCF template will be further refined once the project has started to ensure that the project team understand and take ownership of the monitoring plan.

The project team will ensure that the indicators included in the project results framework are monitored annually and will objectively report progress. Project components will be monitored separately as well as in relation to the achievement of higher-level projects results and overall GCF goals. As described in section E of the funding proposal, the project M&E will each cover two levels of performance: GCF-level performance (expected performance against investment criteria) and project-level performance. Each level requires its own implementation arrangements and time frames. Working closely with technical advisers, the project M&E staff will be responsible for designing a study to: a) establish baseline levels for fund-level core indicators and outcomes; b) establish baseline levels for project level results and indicators; and c) permit tracking progress against the target indictors for climate resilience.

Details of M&E implementation will be negotiated and included in the agreements between the AE, the Co-Executing Entities – the MoCC and Save the Children Vanuatu. Annual reviews will be led by the PMU with the participation of Area Councils and other government ministries involved in the project. With 29 Area Councils involved, the annual monitoring reviews may need to be organized at the provincial or sub-provincial levels. A summary of the monitoring plan is provided in **Table 16**.

***Table 16.*** *Summary monitoring plan*

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| *Baseline Study* | *Baseline study* | Baseline establishment in year 1 before the start of the project | Baseline survey questionnaire administered to households and community and baseline report produced | *100,000* |
| E.2 – **GCF Impact Level** | | | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Evaluation reports will include assessment of the project's contribution to paradigm shift by assessing its scale, replicability and sustainability | *Budgeted under evaluations and output level monitoring* |
| Annual project reporting (output level) | *Survey/questionnaire* | Annual | Annual project reports will include assessment of progress towards paradigm shift | |
| E.3 – **GCF Outcome Level** | | | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | <u>Core 2: Direct and indirect beneficiaries reached</u> | *Budgeted under evaluations and output level monitoring* |
| Annual project reporting (output level), including data from government statistics (national census, HIES), NDMO reports, progress / completion reports, | *Survey/questionnaire* | Annual | | |

[14] Please note that the information presented in this table is approximated. The M&E plan will be further developed at the project inception phase involving all relevant stakeholders.

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| extension officers monitoring reports | | | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Supplementary 2.1: Beneficiaries (female/male) adopting improved and/or new climate-resilient livelihood options | |
| Annual project reporting (output level), including data from government statistics (national census, HIES), NDMO reports, progress / completion reports, extension officers monitoring reports | *Survey/questionnaire* | Annual | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Supplementary 2.2: Beneficiaries (female/male) with improved food security | |
| Annual project reporting (output level), including data from government statistics (national census, HIES), NDMO reports, post-disaster surveys, progress / completion reports, extension officers monitoring reports | *Survey/questionnaire* | Annual | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Supplementary 2.5: Beneficiaries (female/male) adopting innovations that stregthen climate change resilience | |
| Annual project reporting (output level), including data | *Survey/questionnaire* | Annual | | |

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| from government statistics (national census, HIES), progress / completion reports, extension officers monitoring reports | | | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Core 4: Hectares of natural resources brought under improved low-emission and/or climate-resilient management practice | |
| Annual project reporting (output level), including data from progress / completion reports, extension officers monitoring reports | *Survey/questionnaire* | Annual | | |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Supplementary 4.1: Hectares of terrestrial forest, terrestrial non-forest, freshwater and coastal marine areas brought under resoration and/or improved ecosystems | |
| Annual project reporting (output level), including data from progress / completion reports, extension officers monitoring reports | *Survey/questionnaire* | Annual | | |
| E.4 – **GCF Outcome level: Enabling environment** | | | | |
| Evaluation reports | *Document review* | Mid-term and end-term | Core Indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner | *Budgeted under evaluations and output level monitoring* |
| Annual project reporting (output level) | *Survey/questionnaire* | Annual | | |

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| Evaluation reports | *Survey/questionnaire* | Mid-term and end-term | Core Indicator 6: Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation | |
| Annual project reporting (output level) | *Survey/questionnaire* | Annual | | |
| Review report | *Survey/questionnaire* | Mid-term and end-term | Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards | |
| Annual project reporting (output level) | *Survey/questionnaire* | Annual | | |
| *E.5 – **Project/programme specific indicators*** | | | | |
| Annual project reporting (output level) drawing on government (NDMO) reporting on CDCCC operations | *Government data/records* | Annual | % target communities with functioning CDCCCs | 6,654 |
| Annual project reporting (output level), including government (NDMO) reporting on CDCCC operations | *Government data/records* | Annual | % target CDCCCs with gender balance | 6,654 |
| Annual project reporting (output level), including government (NDMO) reporting on CDCCC operations | *Government data/records* | Annual | % target CDCCCs with and child/youth engagement | 6,654 |

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| 1. Annual project reporting (output level), including training/workshop reports 2. | *Survey/questionnaire* | Annual | % target women, men, children and youth with increased understanding of the implications of climate change | 14,970 |
| Annual project reporting (output level), including workshop reports and government (MoCC) reporting on community adaptation plans | *Government data/records* | Annual | % target communities with adaptation plans in place | 6,654 |
| Annual project reporting (output level), including government (NDMO) reporting on CDCCC operations | *Government data/records* | Annual | % target CDCCCs with internet connectivity for CIS/EWS delivery | 6,654 |
| *Annual project reporting (output level), including training/workshop reports* | *Survey/questionnaire* | Annual | # target community members with increased understanding of application of CIS to agriculture/fisheries | 14,970 |
| Annual project reporting (output level) | *GIS data* | Annual | # hectares of agricultural and fisheries sites under improved management using nature-based solutions | 30,000 |
| Annual project reporting (output level), including training/workshop reports | *Survey/questionnaire* | Annual | # target farmers with increased understanding of climate-resilient agriculture practices | 14,970 |
| Annual project reporting (output level), including monitoring visits | *Field observation visits* | Annual | # target farmers implementing climate resilient agriculture practices | 29,940 |

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| | | | | |
| Annual project reporting (output level), including monitoring visits and government statistical data | *Survey/questionnaire* | Annual | % target households in moderate or severe food insecurity<br>(This indicator will also be used to assess progress against Output 2.3) | 14,970 |
| Annual project reporting (output level), including training/workshop reports | *Survey/questionnaire* | Annual | # target fishers with increased understanding of climate-resilient fisheries practices | 14,970 |
| Annual project reporting (output level), including monitoring visits | *Field observation visits* | Annual | # target fishers diversifying fisheries resources | 29,940 |
| Annual project reporting (output level), including monitoring visits | *Field observation visits* | Annual | # communities using food preservation technologies | 29,940 |
| Annual project reporting (output level), including monitoring visits | *Survey/questionnaire* | Annual | # target women-led producer groups collaborating to access new markets | 14,970 |
| Annual project reporting (output level), including monitoring visits and government statistical data | *Survey/questionnaire* | Annual | % target households participating in producer groups that report increased incomes | 14,970 |
| Annual project reporting (output level), including monitoring visits | *Key informant interviews* | Annual | # partnerships facilitated between producer groups and private sector entities | 39,920 |

| **Monitoring** | | | | |
|---|---|---|---|---|
| Data/Source | Collection Tool | Frequency | Indicator | Indicative Budget (in US$)[14] |
| Annual project reporting (output level), including monitoring visits | *Survey/questionnaire* | Annual | # Area Council staff with increased capacity to integrate climate change into planning and budgeting | 14,970 |
| Annual project reporting (output level), including DFAT project annual reporting | *Government data/records* | Annual | Shock-responsive social protection system developed and tested (via DFAT co-finance) | 6,654 |
| Annual project reporting (output level) | *Document review* | Annual | # knowledge products disseminated nationally, regionally and globally | 39,920 |
| Annual project reporting (output level), including monitoring visits | *Field observation visits* | Annual | # local-provincial-national stakeholder forums convened | 29,940 |

## 9.2. Evaluation

The project's mid-term evaluation process will include an internal impact evaluation and an independent process evaluation *(**Table 17**)*.

The evaluations will rely on the key questions to answer the main overarching and forward and backward-looking questions and may include assessment against OECD-DAC and GCF evaluation criteria. These may include the following: relevance; effectiveness of the project and processes; the efficiency of processes; sustained impact and coherence in climate finance delivery; gender equity and inclusiveness; innovation and potential for paradigm shift; country ownership; coherence of climate finance; and potential for building scale and unexpected results (positive and negative). The evaluation will analyse the criteria or use the relevant criteria customized to this evaluation. Overall, the evaluation will contribute to accountability and learning by reviewing emerging evidence on the performance and the impact and/or likelihood of the project. The mid-term evaluation will be instrumental in contributing – through operational and strategic recommendations – to improve implementation, setting out any necessary corrective measures for the remaining period of the project. The final evaluation will assess the relevance of the intervention, its overall performance, as well as sustainability and scalability of results, differential impacts and lessons learned. The evaluation should also assess the extent to which the intervention has contributed to the Fund's higher-level goal of achieving a paradigm shift in adaptation to climate change in Vanuatu.

The evaluations will adopt a mixed-methods approach involving both quantitative and qualitative data collection and analysis, that can adapt to the information that is available or that the team can generate. The collection of information, data and opinions will be guided by, but not limited to, the evaluation matrix. Data will always be verified and validated, and it will be identified whether the data is confirmed by one or more sources so that it can be used appropriately in the analysis. The team will seek to triangulate the information and evidence taken from different sources and it will consider different perspectives. These sources include desk reviews and reviews of previous studies by other institutions; interviews with key stakeholders; as well as interviews with informed observers and field observations by evaluation team members. In addition to primary data collected by the evaluators and secondary national data, both mid-term and final evaluations will draw on the monitoring reports and activities prepared by project staff. Careful attention will be paid to the disaggregation of data, results and outcomes by gender, age and vulnerability groups, considering the compositions of peoples in the project area and the different level of vulnerability of project beneficiaries.

The overall assessment will bring to the Save the Children, stakeholders, GCF and all other involved partners, lessons and experiences on what is working, how and for whom, while identifying key bottlenecks in ensuring access and commitment to adaptation support.

The full M&E plan is available at **Annex 11**.

***Table 17.*** *VCCRP evaluation plan*

| **Evaluation** | | | |
|---|---|---|---|
| Type | Timing | Independent/Self-evaluation | Indicative Budget (in US$) |
| *Impact* | Year 3 | Self-Assessment | 60,000 |
| *Process* | Year 3 | Independent | 80,000 |
| *Impact* | Year 6 | Independent | 100,000 |

# 10. Implementation schedule

The Project Implementation Schedule (**Annex 5**) lists all the activities necessary to complete the project and related timeframes for delivery. All funded components of the project will be completed within six years.

The project will be rolled out initially in a selective number of communities, Area Councils and Provinces to refine the implementation methodologies and upskill the central and provincial government staff who will support the delivery of the project. As the capacity and knowledge increases and the tasks are completed in the first communities, the project will cascade to another group of communities (using a hybrid of Agile and Cascade Project Management methodologies). Target areas will be prioritised according to the beneficiary selection process (**Section 7.3**) with input for Provincial authorities. By not commencing the project in all target communities at one time it allows the staged use of key resources in the government and communities and the ability to share learnings.

# 11. Budget, co-financing and risk management

## 11.1. Budget

The project budget was developed based on current and previous experience in the development and implementation of projects across a range of sectors in Vanuatu and via detailed consultation with key stakeholders, input from government line ministries and sector experts. The largest share of the implementation budget (45%) is allocated to Component 2, focused on implementation of the adaptation packages at community level. Component 3, focused on adaptive governance is allocated 26% of the implementation budget (including a significant allocation of co-finance focused on the development of a shock-responsive social protection mechanism. 20% of the implementation budget is allocated to Component 1, focused on increasing communities' understanding of the implications of climate change for their food security and livelihoods as well as local level adaptation planning. Finally, there is 4% allocated to the is Project Management Unit (4.7% of the GCF grant allocation) and 4.4% on Monitoring and Evaluation.

## 11.2. Co-financing

The project has secured a total of USD 18.97 million in co-financing and parallel financing. The funding partners and parameters are described below:

- **Australian Department of Foreign Affairs and Trade (USD 4.6 million)**

SCA will utilise co-finance from Australia's Department of Foreign Affairs and Trade to provide technical assistance to the National Disaster Management Office for the design of a government owned, shock-responsive social protection initiative. NDMO will be supported through a technically specialised procured party to develop and pilot locally appropriate targeting criteria based on needs (including inputs from Activity 1.2.2) and triggers determined by national-level indicators of shock such as drought and rainfall or local-level knowledge of community-specific shocks. The targeting criteria will be used to register the most vulnerable children and households in communities. Targeting criteria combined with trigger indictors will form the underlying framework for the system which in turn will further strengthen sub-national CIS and EWS systems (including via output 1.3). The system consists of providing primarily unconditional cash transfers for time-delimited consumption support in times of acute needs

and stress. Delivery will occur through physical payment, vouchers or mobile money, to be determined during the design phase. Upon the occurrence of a shock (sudden or slow-onset), activation of immediate cash transfer to registered households, possibly even before disaster occurs based on seasonal weather forecasting will enable households to prepare for shocks (natural hazards) or climate induced stress and address immediate needs before household resilience is eroded. The activity will include the generation of evidence and learning to understand perceptions of cash transfers including acceptability and accessibility of cash transfer mechanisms and targeting criteria. Note the activity exclusively focused on designing and establishing the system and will not include cash payments as that is out of the scope of this project

- **Government of Vanuatu (USD 1.5 million)**

The Government of Vanuatu has committed USD 1.5 million in in-kind co-finance to the project. This funding will support core staff from the Executing Entity and government ministry partners to enable them to fully engage in project delivery and support the integration of project activities into core Ministry planning processes.

- **Save the Children Australia (USD 0.3million)**

Save the Children Australia has committed $0.3million in grant co finance to the project management unit costs. This funding will support a Regional Climate Change Advisor and finance support staff.

- **United Nations Development Programme / Global Environment Facility (USD 12.5 million)**

UNDP is in the final stages of design and approval for the second phase of the GEF-funded Vanuatu Coastal Adaptation Project. Phase 1 was completed in 2019. Phase 2 (VCAP-2), which aims to improve the resilience of vulnerable areas and communities to the impacts of climate change through the conservation of biodiversity and natural ecosystems, will commence implementation in 2022. SCA and UNDP have collaborated on site selection to ensure no overlap of targeted communities. The two projects will cooperate closely during implementation to ensure complementarity of activities at the local level, sharing of lessons and outcomes, and ensuring that national and provincial level work under each project is well coordinated and mutually reinforcing.

Co-finance commitment letters are at **Annex 13**.

## 11.3. Risk Management

A number of risks will be inherent in the success of the implementation of the project. Key will be those identified for each activity, which will be managed through the ESS process (**Section 11.4**). Additional attention has been given to project level risks that sit across multiple activities at a project level are addressed in **Section 11.7**.

Linked to the risks are underlying assumptions that have been made in designing the project. That is, factors outside the project's control that need to occur for one level of the project to achieve the next level up (e.g., outputs to outcomes). Assumptions made during the project design are outlined in specific project design deliverables (e.g., budget annex contains the assumptions made during the project costing).

## 11.4. Environmental and Social Safeguards screening and risk management

Environmental and Social Safeguard (ESS) screening of the proposed project was undertaken against the Save the Children Project Environmental and Social Sustainability Management System (PESSMS) which has been specifically tailored to the VCCRP using supplementary criteria from the GCF Guidelines for the Environmental and Social Screening of Activities Proposed under the Simplified Approval Process (SAP)[15] and in accordance with the Green Climate Funds (GCF) Revised Environmental and Social Policy (ESP) (B.BM-2021/18). The PESSMS is an integral part of the SCA project lifecycle and integrates with that in the following ways: (i) environmental and social screening and categorisation during the identification and concept stage; (ii) ESS assessment and planning at the design and appraisal stage; (iii) ESS plan implementation and monitoring at the implementation and report stage; and, (iv) ESS evaluation and review at the evaluation and close out stage.

In undertaking this screening, SCA have considered the potential risks and impacts that include direct and indirect, induced, long-term and cumulative impacts and have considered the proposed activities area of influence. SEAH provisions have been included in the project risk screening and its Environmental and Social Assessment and Residual Risk Management Plan (RRMP) **Annex 6**, to prevent and respond effectively to SEAH in a survivor-centred and gender-responsive way.

As per standard practice, ESS screening has been carried out at the pre-mitigation stage to enable the most serious potential impacts of the activities to be considered. While there are several categories of subprojects proposed under VCCRP, as per GCF requirements, the risk category of the highest risk activity is applied to the entire project.

The VCCRP has developed a set of excluded activities which provide the PMU with clear limits to activity scope to prevent creep into medium or high-risk areas. This supports the PMU to only develop Category C type activities during implementations. **Table 18** contains the VCCRP excluded activities and is referred to during activity identification, prior to any ESS Screening.

***Table 18**. VCCRP excluded activities*

| **Excluded activities** | |
|---|---|
| **Activity category** | **Description** |
| Infrastructure | Construction of walled or roofed structures |

[15] GCF Guidelines for the Environmental and Social Screening of Activities Proposed Under the Simplified Approval Process, GCF Documentation, 10 January 2018: https://www.greenclimate.fund/document/guidelines-environmental-and-social-screening-activities-proposed-under-simplified-approval

| | |
|---|---|
| Fisheries | Introduction of any aquatic species which have the potential to become invasive or to escape into nearby ecosystems |
| Fisheries | Establishment or refurbishment of any aquaculture in or adjacent to critical natural habitats |
| Fisheries | Introduction of formalised marine protected or Community Conservation Areas |
| Forestry | Reforestation with non-native vegetation |
| Forestry | Activities which may result in unsustainable extraction of native tree species |
| Agriculture | Use of inputs that are not on the Government list of endorsed inputs, which delimits the use of GMOs |
| Agriculture | Introduction of any invasive crops or crops not approved by Government of Vanuatu |
| Natural Resource Management | Any activity that will lead to involuntary resettlement or land acquisition (including non-physical displacement and involuntary restrictions to economic activities) |
| Natural Resource Management | Any activity that will lead to increased use of agro-chemicals |
| Natural Resource Management | Any other activity that, during implementation, would lead to medium or high environmental or social risks, as per GCF SAP risk screening |

Following on from this, Part 1 of the SCA PESSMS Screening was used to determine the appropriate extent and type of environmental and social assessment required for the design phase. It involves identifying activity-specific environmental and social risks and impacts through an initial assessment of all activities using the part 1 screening questions. Part 2 of the PESSMS provides a Risk Categorisation Checklist (specifically tailored for VCCRP) for all 'yes' or 'unsure' responses to Part 1. The Part 2 checklist identifies and ranks any other potential environmental and social issues that will still have to be considered and managed. The SCA PESSMS ESS screening tool confirms a low degree of concern and confirms a Category C rating for the VCCRP.

SCA engaged all stakeholders, including a sample of communities living in the project area, to jointly identify the risk level. The activities of Component 2 are small-scale interventions at household or community level, with low environmental and social risks. Activities under this component will be further defined on the basis of consultations in the communities once the implementation of the project has started. Any activities under Component 2 that are further defined after the start of the project will also be screened by means of the ESS screening process described in the Residual Risk Management Plan (RRMP). No medium or high-risk activities will be allowed. The activities of the other components are intended to build the capacities of the national and local governments and are equally of low environmental and social risk. This further supports the assessment that the ESS risk level is Category C.

While the small-scale nature of the activities in the adaptation package are low risk, some residual risks are possible, as identified by the Part 2 ESS screening. These residual risks are detailed in the RRMP and can be minimised by following the various management measures described within (**Annex 6**).

As referred throughout this Feasibility Report, all activities implemented at the community level will be designed through community-based participatory planning once implementation of the project has started. These activities will be selected from the offered suite of adaptation packages that are likely to have low environmental and social risks.

In any case, the activities of Component 3 that are defined through participatory planning will also be screened using the process defined in the RRMP (**Annex 6**). Only 'low risk' activities will be accepted for implementation. Activities whose risk level is medium or high will not be accepted.

## 11.5. Residual risk management planning

The RRMP focuses on process-oriented risk management, where the mechanisms are incorporated into the program's implementation to ensure that rigorous screening measures are applied to each intervention, as they are defined, approved and implemented across the relevant activities.

**Screening for interventions**

During the community-based participatory planning on the individual activities, the tailored SCA PESSMS screening procedure as described in the RRMP will be used to ensure that only low risk activities are approved. The screening checklist and procedure has been included in the RRMP. This attempts to apply the performance standards of the GCF's revised ESP (B.BM-2021/18) to all interventions as they are designed, in a way that enables the PMU to easily eliminate medium or high-risk activities.

**Community engagement**

Critical to the management of risk during project design and implementation is the continual, inclusive and well-planned consultation and engagement plan. The plan is aimed at early and consistent stakeholder involvement and engagement with particular focus on the target communities, including women, youth and vulnerable groups. A detailed Stakeholder and Community Engagement Plan which identifies responsibilities, timeframes, milestones and objectives is contained in **Annex 7a**. The PMU will be resourced with a Component Coordinator, who will be tasked with overseeing the facilitation of all community consultations undertaken by a range of project stakeholders.

The PMU will ensure that marginalised and vulnerable groups in the targeted areas are included in public consultations, holding smaller focus groups as necessary, including: the disabled, single mothers who are heads of households and the elderly.

**Land access**

There may be a need for access to lands and/or resources under some of the activities of Component 2. Land and resources will only be used following identification and agreement through robust community-driven participatory planning and after receiving documented community support from a broad representation of the community.

**Grievance Redress Mechanism**

The RRMP has established a complaints procedure, which will be the Grievance Redress Mechanism (GRM). Complaints pertaining to the project activities implemented with GCF resources will be addressed to executives of the PMU. The GRM is designed to ensure that members of the public can submit grievances to the PMU via email, in writing, by telephone or in person and that it responds effectively to SEAH issues in a survivor-centred and gender-responsive way. Additionally, it is designed to account for the traditional complaints processes in villages by which community members can submit grievances directly with their Island Council, or village leaders who will, in turn, then forward the complaint to the PMU. The five-step grievance management process is described in the RRMP (**Annex 6**).

## 11.6. Technical assessment and best practice

The project intends to promote techniques and technologies that are sustainable considering social, economic and environmental parameters. A rapid assessment of the different technical options available to support implementation of the adaptation actions is provided in **Table 19**. The ESS screening of the project also contributed to this rapid assessment (**Section 11.4**).

***Table 19.*** *Adaptation technologies options assessment*

| Technologies explored | Selected | Rationale |
|---|---|---|
| Solar driers | Yes | Preserving and storing food (fruit, vegetables and fish) is a traditional practice that has been lost from many parts of Vanuatu. Food preservation can be an important resilience strategy to ensure food security during and after cyclones and storms, and during periods of drought or other events (e.g. flood, volcanic eruption) when crops fail or conditions are not suitable for fishing. Food processing and preservation supports food security, providing the technology is low-tech and locally appropriate. Solar driers will be promoted as they are easy to construct with local materials, can operate without electricity (solar air driers) or with small solar panels, and are easy to use and maintain with minimal training or equipment needed.<br><br>They were assessed as being suitable to the local conditions in remote and rural communities of Vanuatu. |
| Food preservation – salting and pickling | Yes | Preserving and storing food (fruit, vegetables and fish) is a traditional practice that has been lost from many parts of Vanuatu. Food preservation can be an important resilience strategy to ensure food security during and after cyclones and storms, and during periods of drought or other events (e.g. flood, volcanic eruption) when crops fail or conditions are not suitable for fishing. Food processing and preservation supports food security, providing the technology is low-tech and locally appropriate. Salting is an easy technique that requires initial training and provides a low-tech solution for preserving fish and other meats. Pickling is suitable for many crops and fruit (e.g. taro, kumala and mango) that requires initial training and provides a low-tech solution for the long-term preservation of food.<br><br>They were assessed as being suitable to the local conditions in remote and rural communities of Vanuatu. |
| Solar freezers | Yes | Food preservation can be an important resilience strategy to ensure food security during and after cyclones and storms, and during periods of drought or other events (e.g. flood, volcanic eruption) when crops fail or conditions are not suitable for fishing. Freezing fish and suitable crops supports food security and potential income generation, providing the technology is low-tech and locally appropriate. Solar freezers will be promoted as they are relatively affordable, easy to transport by sea, can operate with small solar panels, have minimal operation and maintenance requirements and provide an immediate solution with minimal training or equipment needed.<br><br>They were assessed as being suitable for some remote and rural communities in Vanuatu. |
| Climate-resilient plant material – seeds, varieties, cuttings, multiplication | Yes | Climate-resilient seeds, such as drought or heat tolerant varieties, can provide reliable food and cash crops during increasing periods of climate variability and change. Crop varieties, cuttings and multiplication that are climate-resilient are on the Government list of endorsed inputs. The distribution of seeds and plant |

| | | |
|---|---|---|
| | | materials is achievable to large portions of the population and can achieve food and income security with minimal training or equipment.<br><br>The distribution of climate-resilient plant materials (seeds and cuttings) was assessed as being suitable to the local conditions in remote and rural communities of Vanuatu. However the use of GMOs is not allowed under government regulations. Introduction of any exotic crops or crops not approved by the Government of Vanuatu are not within scope. |
| Fish aggregating devices (FADs) | No | There are two general categories of FADs used in the Pacific region, industrial offshore and artisanal nearshore. This project considers artisanal FADs set in nearshore (surface and subsurface) and lagoon environments as potentially suitable to support food security in some contexts. It does not support industrial FADs. FADs were considered as part of this project as they offer the benefits of increased catch rate and improved access to species of oceanic/pelagic fish and distribution of fishing effort, which in turn reduces the cost of fishing and offers increased food security and protection of coral reef ecosystems. Considerations when using FADs include the potential for user conflict due to over-crowding around the FAD, access for communities without powered boats, and lifespan and maintenance issues. It is recommended that the use of FADs is implemented in conjunction with the community and a public awareness campaign and aligned with the national network that includes a code of conduct to explain the benefits of FADs and their use. Despite their potential suitability for reducing reliance on inshore fisheries, no communities surveyed during project development identified FADs as a required/desired technology. |
| Fertilisers | No | Chemical fertilisers are not a traditional part of farming in Vanuatu and lessons from other Pacific nations (e.g. Fiji) demonstrate the significant impacts that chemicals can have on soil quality and fertility and ultimately crop production if not used appropriately. Most farmers and local agricultural extension officers are not accustomed to using fertilisers and lack the knowledge and skills to identify where it may be appropriate and the application rates that are safe to use. Fertilisers are also expensive and can add to the water requirements, which places a greater burden on farmers practicing rain-fed cropping under a changing climate. Vanuatu has naturally fertile soils on many islands and alternative practices, such as agro-forestry and organic compost and fertilisers will provide greater benefit with minimal costs. Such sustainable practices will be promoted, including manure application (taking advantage of livestock in the communities), composting (using organic matter readily available) and agro-forestry or mixed cropping methods.<br><br>Chemical fertilisers will not be promoted. |
| Insecticides/Pesticides | No | While pests have been noted as an issue, like fertilisers, due to cost, potential negative impacts and the lack of awareness and understanding on how to use these chemicals in a safe way, the project will not promote this technology. Instead, biological measures will be provided, including companion planting (growing crops that naturally repel insects), composting and agro-forestry. |

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| Aquaculture ponds | Potential | Small scale aquaculture operations have the potential to provide increased food security where wild catch becomes more variable. Small ponds were considered for this project (large scale operations are excluded under Category C classification). Implementation of pond systems need to be coupled with consideration of potential biosecurity risks, and training in maintaining ponds and water quality. Availability of farm inputs (e.g. feed) also needs to be considered in the design. In assessing the use of aquaculture ponds consideration must be given to the species being farmed. Consideration should be given to the risks associated with disease and translocation of farmed species, including the chances that fish escape into native waterways, the extent that escaped fish will compete with wild fish for prey, space, and mates or predate on them (ecological impacts), the extent escaped fish will affect habitats, the likelihood that escaped fish will establish a self-sustaining population, and the likelihood of transmission of infections/disease/pathogen. A risk assessment for Port Resolution on south Tanna found that the likelihood of tilapia species escaping from farmed ponds into natural waterways was almost certain and that the ecological implications were very high. Other islands with extensive freshwater systems, such as Santo, will also be subject to these risks, which should be fully assessed for each site before aquaculture is implemented. |
| Machinery and buildings | No | The construction of infrastructure including walled or roofed structures is excluded from Category C type projects. |
| Seawalls | No | |
| Boreholes/Wells | No | |
| Hydropower | No | |
| Ponds/cisterns | No | |
| Pumps | No | |
| Dams | No | |

## 11.7. Project management risks

Consideration of risks in Vanuatu that affect the successful implementation of climate resilience projects and also experience in similar projects identified some key challenges (**Table 20**).

Key to managing these project level risks is the track record of SCA. Globally, SCA is currently implementing a portfolio of more than 50 resilience-related projects and programmes valued at more than USD 300 million. This includes projects and programmes with explicit objectives to reduce climate and disaster risks and increase adaptive capacity and speed recovery from shocks and stresses.

SCA has extensive experience of designing, delivering, evaluating and documenting approaches to community-based adaptation, including in Vanuatu, where it has worked for more than 25 years. Its approach is to support governments to deliver against their adaptation policy objectives and needs bringing a consultative approach to engaging a broad range of stakeholders, including communities, in the design of climate change interventions. Specific consideration of mitigation of key project level risks is shown in **Table 20**.

***Table 20.*** *Project Management Risks*

| Risk | Mitigation |
|---|---|
| Financial management<br>Public financial management systems of the government's Executing Entity (MoCC) and government ministries implementing activities are unable to effectively absorb and distribute the increased volume of financing from this project on top of existing budget expenditure. | The fiduciary management procedures that will be utilized for the project under the Vanuatu Government decentralized model significantly reduces the overall risk and aligns with the intent of the Vanuatu PFEM Act (see Section G3 for further details). In addition, the AE has established and effective corporate policies regarding financial management that further mitigate this risk.<br>While the Government does not have access to sufficient finance to meet current adaptation needs, Vanuatu has the Pacific region's only functional Government Financial Management Information System. The FMIS is linked to a Single Treasury Account (STA), a single reporting system and a single chart of accounts. This means that all Government ministries currently access all of their funds via the one system for both spending, reporting and commitment purposes. It is this total level of transparency and control that has enabled Vanuatu to be the first and, in many cases, only recipient of direct budget support from a wide range of donors including DFAT, the European Union, the US MCA, NZMFAT, UNICEF and others. The Vanuatu Government runs a fully centralised financial management system that has sufficient decentralised coverage through Government agencies in the islands (including Department of Finance). This system is functional and can handle significant flows of funding. Project resources allocated to Government ministries (including Department of Local Authorities and Provincial governments; Department of Agriculture, Department of Fisheries; Department of Climate Change; and National Disaster Management Office) will all flow through this centralised system and will be tracked and reported via MFEM. |
| Long-term capacity building<br>Many international and regional donors are funding projects in Vanuatu that include site-specific activities and discrete government positions. Once this funding and the project ends, experience has shown that there isn't the financial capacity for government to continue the role and the staff and institutional knowledge is lost, and project activities cease. | The VCCRP project will mitigate this by embedding sustainable approaches to changing the governance framework and empowering government ministries to increasingly lead implementation of project activities. This will help ensure the knowledge, experience, skills and staff positions supported by the project remain after the project ends. A key focus of the project is in building local capacity to access and effectively utilize future flows of climate finance, including at the most local level (by supporting the development of prioritized and fundable local adaptation plans and building local capacity to harness CIS and increasing knowledge of appropriate adaptation actions implementable at the community level. |

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| Prolonged period to establish the project<br>A lack of technical capacity and slow government systems and processes can affect mobilization and implementation of projects, leading to significant delays in delivery of work plans and meeting funding agreement obligations, particularly in years 1 and 2. | The implementation schedule and budget allocations have specifically taken this risk into account, and the proposal includes a staggered approach to project mobilization and scheduling. Early project activities (particularly in years 1 and 2) will be significantly supported by of Save the Children Vanuatu who can mobilize quickly to support government activities while recruitment, training and other capacity building tasks are completed. This will ensure early implementation is not delayed while also not placing a sudden and over-whelming pressure on limited government resources.<br>The early establishment of the Project Management Unity (PMU) will enable the timely initiation of the procurement of goods and services which will happen in parallel to the mobilisation of sub-national government offices and staff leading to faster project initiation timeframes. |
| Limited government capacity<br>Current limitations in technical capacity and available resources within government, with multiple competing demands on personnel, can undermine robust governance structures for selecting new positions and administration of project work plans. | The project will be designed to avoid over burdening any one government delivery partner to minimise straining absorptive capacity and creating capacity constraints that delay project implementation. This is a key lesson from the implementation of a range of previous projects. Working with a range of relevant departments, including Department of Local Authorities and Provincial governments; Department of Agriculture, Department of Fisheries; Department of Climate Change; and National Disaster Management Office will ensure no one department creates implementation bottlenecks as has been the experience with some previous projects. The project will also provide direct technical assistance to Government departments and other delivery partners and supported through Save the Children's systems and national footprint. The breadth of the project will also help ensure community capacity is not overwhelmed. Working across all six provinces will enable the project to spread the investment across space and time. A slow and considered development of in-country, local and ongoing technical capacity and ownership supported by national and international expertise will help ensure sustainable engagement across government and the building of government skills and technical capacity throughout the life of the project. |

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| Lack of community ownership<br>Vanuatu has a dispersed population with many remote and isolated rural communities. This isolation has resulted in limited governmental services and project delivery historically. There is a risk that the engagement and ownership of this project by communities could be viewed with some scepticism with low levels of willingness to engage based on potential negative previous experiences. | The project will mitigate this risk by ensuring all project activities are developed in a participatory manner at a pace that suits communities, and that local needs are balanced with project work plan imperatives. Save the Children Vanuatu has strong existing relationships in the provinces as well as a history of engagement with government at the community level. This knowledge, experience and existing relationships will be key in supporting effective and willing engagement by communities, and ultimately community ownership of project activities and outcomes. Including DLA as the key government ministry implementing activities will also help reduce this risk, as DLA staff are well embedded at provincial level and manage Area Council operations. The project will also ensure that the direct immediate benefits of the local level activities are clear so that participating communities will see an immediate return on their investment of time and resources as well as the longer term benefits from increased adaptive capacity. |
| Geographic scale of implementation<br>The project will be implemented across multiple sites in all 6 provinces. This has the potential to stretch resourcing and require planning to ensure coordination across Area Councils and Provincial government levels. | Implementing a staggered approach to project scheduling will allow the slow building of capacity while not placing a sudden and over-whelming pressure on resources. Most activities once initiates will be implemented by sub-national government entities and staff therefore reducing the reliance on national staff. Taking a sub-national approach significantly reduces the risk of stretching national capacities and affecting the seed and quality of project implementation. |
| Lack of trust between project partners | Strong partnerships between the AE, EEs and IEs is critical. During the design process, SCA (AE) worked closely with all partners and throughout to ensure that all perspectives were taken into account. This will continue throughout implementation, including via the project's management structure and the stakeholder engagement plan (Annex 7a of the Funding Proposal Package) to ensure all partners work cooperatively towards agreed goals via agreed methods.<br>The project governance structure promotes the inclusion of governmental IEs into the decision making for a and processes in an open and transparent manner further promoting shared ownership and trust. |

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| Significant extreme weather event impacts on project sites<br>Given Vanuatu's geographic location, the project's breadth and implementation period, it is highly likely one or more project sites will experience a major extreme weather event during the project cycle. | The project will specifically and purposefully build DRR capacity in communities to reduce the impacts of severe weather events. The project will also include adaptive management process and contingency planning.<br>Both co-EE's have significant experience in emergency preparedness and response. Leveraging these institutional skills and experiences project level contingency planning will be established for the duration of the project therefore minimise the potential for extended disruption to project implementation. |
| FP035 (Van-KIRAP / Van CISRD) delays<br>If FP035 CIS, IEC and demonstration site outputs are significantly delayed VCCRP will not be able to utilize them as inputs to project activities. | FP035 has, to our understanding, completed a range of soft outputs relevant to VCCRP. Should timely inputs to activities be unavailable, we will work closely with DoCC and VMGD to identify other sources of information as inputs to VCCRP IEC and training materials (including those developed under the VMGD/SPREP/SPC COSPPac project – supported by Australia's Bureau of Meteorology). |

# 12. Alignment with GCF investment criteria

Few donors have made significant funding available for the delivery of CBA projects and the majority of highly vulnerable counties struggle to meet existing needs at the community level, let alone provide substantial resources to address future challenges. While climate finance continues to increase over time, the amount allocated to adaptation has remained static in recent years, at around USD 20-30 billion (10-15% of public climate finance, but less than 5% of total climate finance) (CPI 2019).

While it is difficult to accurately account for the total flow of climate finance to the community level, a recent assessment estimated that less than 10% of climate finance flowing from dedicated multilateral, bilateral and regional climate funds between 2003 and 2016 was "approved for locally focused climate change projects" (Soanes et al. 2017). The assessment estimated this figure was around USD 1.5 billion, of which around USD 1.3 billion was allocated to CBA activities – equating to an average of USD 93 million allocated to CBA annually since 2003. This represents a tiny proportion (around 0.02%) of total global climate flows. This rises to just under 0.4% when taken as a percentage of public climate finance flows for adaptation – still an insignificant number compared to the known needs at the community level.

Within these total flows, some funds and donors have attempted to prioritize CBA, but only at small scale or in competition with other priorities. For example, the Global Environment Facility has a dedicated community-based mechanism – the Small Grants Programme (SGP), which channels funding direct to communities and civil society groups for a range of issues, including adaptation. The SGP is an excellent and well-regarded mechanism; however, individual grants are capped at USD 50,000, necessarily resulting in very small-scale pilot activities. In Vanuatu, for example, the SGP has supported 60 projects since 2007 with total funding of USD 2.3 million – averaging at USD 38,000 per project. Projects at this scale can have a significant impact on local lives, but they are not likely to result in transformational change.

The only bilateral donors to have provided substantial funds for CBA to date, are Australia (via Community-based Climate Change Action Grants) and the U.K. (via Building Resilience and Adaptation to Climate Extremes and Disasters). These mechanisms supported larger scale CBA projects implemented by international NGOs and local partners; however, the funding for projects was capped at AUD 3 million (USD 2.3 million) for Australia and around GBP 9 million (USD 11 million) for the U.K. Both were also relatively short term, based on a two- to three-year project cycle. The U.K. Programme did not include the Pacific. The Australian-supported project in Vanuatu, in which Save the Children was an implementing partner, was highly regarded by both donor and partner government; however, to result in transformational change, the work undertaken in these approaches need to be taken to scale. This is the key argument for GCF engagement.

With the scale of need at the local level growing and the majority of donors choosing to remain focused on national level projects, there is a significant gap in climate finance that the GCF is well positioned to fill. Investing in CBA is not likely to be a high priority for many governments with scarce resources and competing interests, particularly in the face of patchy documented evidence of the impacts of community-based approaches working at scale and driving transformative change.

Without substantial investment from a mechanism like the GCF, CBA is likely to remain a small scale, pilot approach that struggles to make an impact beyond individual communities. With GCF investment, the government of Vanuatu will be able scale up community-based

approaches to drive transformational changes in the way adaptation is conceived, from the bottom up, and provide the donor community with the evidence they need to proactively invest in participatory approaches to building community resilience. The Government of Vanuatu is committed to CBA approaches; however, domestic resources are insufficient to take CBA to scale, and bilateral donors are spread across a wide range of sectors and are unlikely to focus sufficient resources to catalyse scale in CBA. It is clear that the Government of Vanuatu does not currently have sufficient funding to meet immediate adaptation needs at the local level. It is equally clear that donor funds are not an adequate source of CBA finance, as they are shorter term and smaller scale. Grant funding is the most appropriate level of concessionality for CBA activities as they are not of interest to the private sector finance and contain no direct repayment capacity. CBA activities that are not funded directly by government or are not self-funded by communities are not viable without donor assistance. In the context of Vanuatu, the government does not have the capacity to meet adaptation needs and rural communities do not have the resources to self-support required adaptation actions.

The following sections provide an in-depth overview of the envisioned alignment of the VCCRP with the GCF's Investment Criteria, shown below in **Figure 30**.

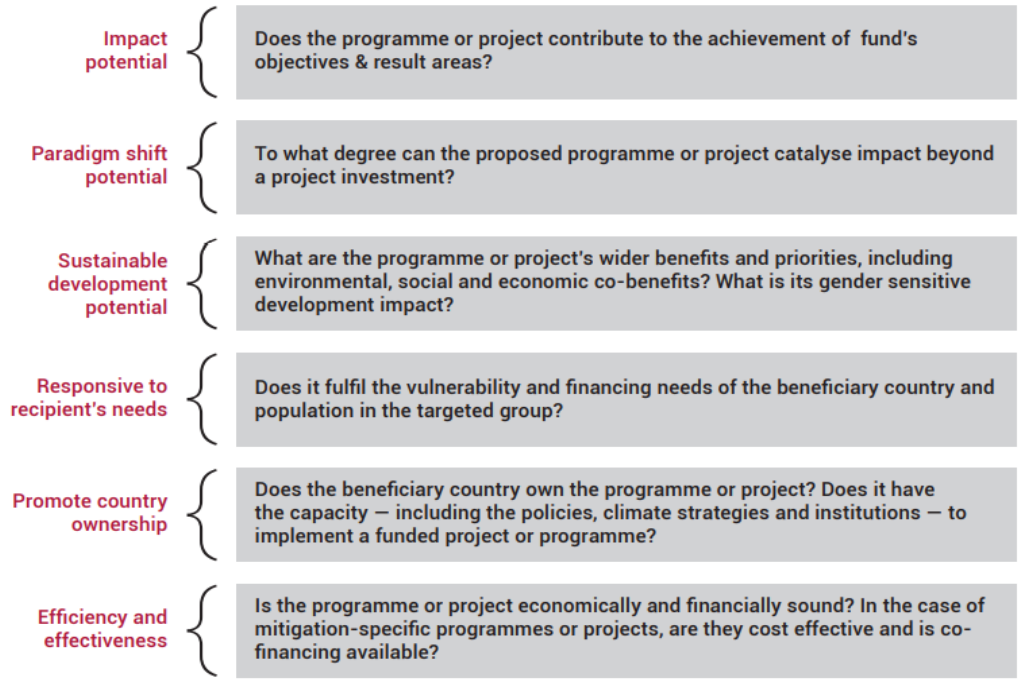


***Figure 30.*** *GCF investment criteria*

## 12.1. Impact potential

The project will contribute to the GCF's overarching adaptation impact – contributing to increased climate-resilient sustainable development – by directly increasing the climate resilience of 90,157 people in Vanuatu (33% of the total population / 44% of the rural population), focused on the most vulnerable and socially marginalized groups. Direct beneficiaries at community level will benefit from activities under Component 2, via implementation of the adaptation packages through the adoption of climate resilient agriculture, fisheries and diversified/enhanced livelihoods resilient to the conditions of flooding, storm surges, salinisation, drought and heatwaves (marine and terrestrial); as well

as from activities under Components 1 and 3. Direct beneficiaries at provincial and national levels will also benefit from activities under Components 1 and 3. Farmers and fishers will benefit from reduced vulnerability through the use of improved climate information services and early warning systems, adoption of resilient food production techniques, as well as income diversification. The project prioritises measures to address the resilience needs of small farmers – who have limited access to markets, financial instruments, agricultural and climate technological advice and who suffer from poor basic infrastructure – and of vulnerable groups such as women, youth and people with disability. Beneficiary numbers were calculated via a systematic approach to beneficiary identification at Area Council level based on published statistics and data. Communities in 29 Area Councils across all six provinces will receive inputs selected from the adaptation package menu, based on their evolving needs and local context. More detailed information on beneficiary selection and targeting is in **Section 7.3** and **Annex 23**.

The project will contribute to several of the GCF's Fund-level adaptation and enabling environment outcomes including:

- **ARA1** Most vulnerable people and communities as it targets some of the most climate vulnerable remote and rural communities in Vanuatu with support to build adaptive capacity;
- **ARA2** Health, well-being, food and water security as it will help significantly strengthen local-level climate resilience via increased food security, diversified livelihoods strategies and reduced disaster risk;
- **ARA4** Ecosystems and ecosystem services as it will help protect and rehabilitate critical ecosystem services for local food security and livelihoods;
- **Core indicator 5** (Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low emission climate-resilient development pathways in a country-driven manner) by supporting development and implementation of sub-national level adaptation planning and implementation coordination mechanisms;
- **Core indicator 6** (Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation) by supporting introduction of climate resilient food production and processing tools, systems and technologies; and
- **Core indicator 8** (Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards)

The project will also increase the GCF's reach at the local level – highlighting the Fund's ability to directly impact the lives of vulnerable people with practical adaptation actions that measurably build climate resilience. The project will work nation-wide, reaching 44% of the rural population (which is 75% of the country's total population). A further 110,000 rural people will be indirectly reached – increasing the project's total reach to 95% of the rural population. The entire population of Vanuatu (272,000 people) will ultimately benefit, as the project will operate nation-wide and will help improve structures and coherence for adaptation actions at all levels.

The project will result in substantial reductions in loss of lives and assets due to reduction in risks from extreme weather events; as well as a significant increase in the number of people adopting climate-resilient livelihoods options. It will also increase the number of households with year-round food security.

The project is aligned with the Updated Strategic Plan for the Green Climate Fund: 2020-2023, as contained in document GCF/B.27/21, particularly regarding the vision (Promote the paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development). The project directly contributes to the adaptation priorities of the Government, engages directly in design and implementation with local communities, including marginalized groups, and fosters engagement by the private sector through local value-chain development of primary food processing in the local communities.

Undertaking adaptation programming at the community level requires a holistic view of community needs and capacities. At the local level, the impacts of climate change are inextricably interconnected with broader development challenges. The evidence is clear that climate change impacts exacerbate existing development challenges and that, in the absence of significant adaptation action, sustainable development will be unachievable. CBA works directly at the local level to build community adaptive capacity by reducing vulnerability and increasing resilience to the current and projected impacts of climate change. One element of this work is to close existing adaptation deficits to ensure communities have a stable base from which to increase resilience to projected impacts and build adaptive capacity to ensure they can safeguard sustainable development outcomes.

## 12.2. Paradigm shift potential

To date, the majority of climate change adaptation projects in Vanuatu have either worked at the national level on capacity building and policy development or piloted community-based approaches in relatively small numbers of communities. The only large project that took a comprehensive approach to CBA across the country would be VCAP (Phase 1), although CBA interventions were limited to a handful of islands. This trend holds true for the broader Pacific region and across the developing world, where the vast majority of CBA initiatives have been small scale, short term and of limited reach. Notable examples of on-going CCA projects in Vanuatu (including those in late-design phase and closing/phasing out) were presented at a recent DoCC CCA workshop and are provided in **Table 1**.

The project will lead to a paradigm shift away from an agricultural system that is highly sensitive to climate change to climate-resilient food productive systems which ensure food and water security for farmers and fishers. Achieving reduced vulnerability and increased resilience requires a shift in agricultural and fisheries practices in Vanuatu. GCF funding will support this project to make remote communities resilient to the impacts of climate change, through a transformation in the way adaptation actions are conceived and implemented. Providing local communities with up-to-date climate information and projections; empowering them to make informed decisions about the nature, timing and type of adaptation actions they want to take; and resourcing them to follow through and feed results upward through governance structures can create a fundamental shift in the way adaptation is pursued. To date, a largely via top-down approach to CBA has resulted in adaptation actions at the local level that are not community ‘owned’ and, therefore, not consistently maintained or sustained after project funding concludes.

The project will support many of the transformational success factors identified by the Government of Vanuatu in their GCF country programme , including: a demand-driven/bottom up approach that meets local community needs; a robust exit strategy; leveraging private sector expertise; fit-for purpose solutions (without maladaptations); transparent selection of project beneficiaries; transparent selection of delivery partners; integrated sectoral approach; capacity building; community-based SMEs; communication and outreach; meaningful engagement with CSOs and NGOs; and integrating GCF and other climate finance into annual development programme, planning and policy.

The project will result in a step change in the scale at which CBA is conceived and implemented in Vanuatu and beyond. For CBA, the key paradigm shift is mobilizing resources at scale and with sufficient implementation time to ensure community structures are built and have the capacity to continue to operate effectively, with government support, beyond the life of the project. The project will also deliver a transformation in the accessibility of climate finance at the community level. Too often climate finance hits bottlenecks at the national or provincial level. This project ensures that communities are ready to access and effectively utilize future flows of climate finance from a range of sources. Lessons from this project will be applied in future CBA projects developed by Save the Children and communicated widely to the broader CBA community.

The project will help overcome information, technical, financial, social and institutional barriers that prevent a transition from conventional practices by delivering a package of proven and validated measures that will: improve the resilience of local production systems; increase the efficiency of agriculture and fisheries food and water management at the local level; and improve inter-institutional coordination and local governance capacity. The project is also transformative in its focus on promoting women's equitable representation in project activities and enabling greater economic empowerment and participation in decision making by women, youth and people with disability. The project will contribute to each of the GCF's assessment factors from the Investment Framework:

- ***Potential for scale up and replication –*** Taking CBA approaches to scale in one country will provide lessons and a platform for replication across different contexts. This model will seek to prove that CBA approaches can work at scale and will set the foundations for a scale up across and between regions. The model could also be scaled to reach all remaining communities in Vanuatu via a combination of domestic resources and future climate finance.

- ***Institutional knowledge and learning –*** Part of each project component will be dedicated to knowledge sharing and learning engagement between national and sub-national government within Vanuatu. In particular, Component 3 activities will support linkages across different levels of government within existing governance structures in Vanuatu and ultimately the knowledge generated will contribute to the broader CBA evidence base.

- ***Contribution to the creation of an enabling environment –*** In order to provide for the longer-term sustainability of any adaptation technologies provided to communities, the project will ensure adaptation package actions and implementation align with and support existing government systems and processes. Importantly, the project will ensure that government systems and processes are reflective of local needs and have the capacity to support them by strengthening the current vision of decentralization. This is a key paradigm shift in a country that has largely been governed under a centralized approach despite the dispersed and isolation population. Activities under output 2.4 will help targeted communities diversify their livelihood options via supporting access to markets for agriculture/food commodities, creating new avenues for remote and rural communities to engage with private sector entities and increase the sustainability of project activities.

- ***Contribution to the regulatory framework and policies –*** Enhanced dialogue processes will help 'reality check' national policies and ensure they are targeted at effectively meeting the needs of communities as climate change impacts escalate. Working with communities and local government to integrate climate change risks and resilience building actions into development planning and budgeting processes will help catalyse a sustainable transition to locally resourced climate-responsive planning and development.

- ***Overall contribution to climate-resilient development pathways*** consistent with a country's climate change adaptation strategies and plans – This project has a high potential for both scalability and replicability, aligned with, and designed to support achievement of the objectives of national policies. The adaptation package is designed to be scaled out over time to all rural communities, via local authorities. Provincial government officers, trained in climate focused stakeholder engagement and climate change integrated planning and budgeting, could extend the project to non-targeted communities. Within the region, the initial outcomes of this project will inform the development of the other projects addressing similar issues at the community level.

## 12.3. Sustainable development potential

The project will make direct contributions to Vanuatu's efforts to meet UN global Sustainable Development Goals (SDGs):

- 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), particularly targets 2.1, 2.2, 2.3 and 2.4;
- 5 (Achieve gender equality and empower all women and girls), particularly targets 5.1, 5.5 and 5.b;
- 6 (Ensure availability and sustainable management of water and sanitation for all), particularly targets 6.3, 6.5 and 6.6;
- 11 (Make cities and human settlements inclusive, safe, resilient and sustainable), particularly target 11.5;
- 13 (Take urgent action to combat climate change and its impacts), particularly targets 13.1, 13.3 and 13.b;
- 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development), particularly targets 14.2, 14.5 and 14.b; and
- 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss), particularly targets 15.1, 15.2, 15.5, 15.8 and 15.9.

The VCCRP adaptation package includes actions with a range of economic, social, environmental and gender co-benefits, including:

- Increasing the household incomes of rural communities through livelihoods diversification and increasing access to markets (co-benefit 1);
- Increasing broad community health outcomes by ensuring communities have more secure access to locally-available nutritious foods (co-benefit 2);
- Increasing access to education by ensuring fewer school days lost in the aftermath of extreme weather events through adaptation planning and enhanced DRR action (co-benefit 3);
- Increasing the sustainability of ecosystem services by reducing reliance on vulnerable resources (e.g. reef fish) as a primary food source in rural coastal communities (co-benefit 4);
- Increasing gender equality across all areas of community life – with a specific focus on ensuring women's voices are heard in climate-related decision-making forums and that the gendered nature of climate change impacts is a key component of all climate and development planning at community and province levels (co-benefit 5);
- Increasing social inclusion across all areas of community life – with a specific focus on ensuring voices of traditionally underrepresented groups (e.g. youth, people with a disability) are heard in climate-related decision-making forums (co-benefit 6).

The M&E system of the project will ensure that the co-benefits will be monitored throughout implementation of the project and integrated with monitoring systems of the relevant Ministries and other public authorities, particularly the NSDP, and ultimately support the achievement of the NSDP. The M&E system, and the indicators to be monitor are fully described in **Annex 11**.

## 12.4. Needs of the recipient

The VCCRP adaptation packages are designed to be modular and scalable. Specific activities can be increased, decreased or removed, depending on community circumstances. This makes the package approach highly tailored to address direct beneficiary needs and transferable to other communities in Vanuatu (indirect beneficiaries). The adaptation package provides a menu of options for communities to select from based on the (i) drivers of climate change vulnerability in their location, (ii) main issues and challenges they face, (iii) capacity to implement, and (iv) willingness to implement. This will ensure that the project is tailored and response to recipient needs and capacities.

Activities under objectives two and three are designed to ensure the sustainability of the adaptation package actions and help government to maintain adaptations and support a scale out of the approach over time.

## 12.5. Country ownership

The project is closely aligned to, and supportive of, key national and sector policies and strategies in Vanuatu. The Vanuatu MoCC is the co-executing entity for GCF FP035 (via the Department of Meteorology and Geohazards) and is the executing entity for a number of donor-funded projects, including via the GEF. A review of climate public expenditure and institutional governance in 2014 identified several gaps in the delivery of climate change investment in Vanuatu, particularly as the newly established Ministry of Climate Change had not administered any climate change projects. Since then, the government has made a concerted effort to address any capacity shortfalls, particularly focusing on the recommendations of the capacity assessment that suggested medium- and long-term actions to improve the governance of climate change and DRR funding through institutional capacity building. These actions have been supported by the dedicated M&E Unit within the Prime Minister's Office and significant progress and improvements have been made in the country's capacity to deliver large-scale climate change projects.

To ensure that the project can commence on time and meet agreed timelines and milestones, SCA will work closely with the co-Executing Entities to ensure that processes and approvals are in place at all levels. Save the Children has a history of delivering quality projects across a range of sectors in Vanuatu. Key government partners have staff in place within each province who can be mobilised to support project start up. Existing networks and relationships at the province level will ensure a smooth start up and on-time implementation. Further, the project has been designed to prevent over burdening any one government delivery partner to avoid straining absorptive capacity and creating capacity constraints that delay project implementation. This is a key lesson from the implementation of a range of previous projects, including FP035. Working with a range of relevant departments will ensure no one department creates funding bottlenecks as has been the experience with some previous projects. The project will also provide direct technical assistance to Government departments and other delivery partners and will be supported through Save the Children's systems and national footprint. The breadth of the project will also help ensure community capacity is not overwhelmed. Working across all six provinces will enable us to spread the investment across space and time.

The governance capacity building activities in Component 3, provide further potential for government and/or future climate finance to use the same menu and support further menu items in the same communities (along with scaling out to further communities).

The project's implementation arrangements with co-execution by government and civil society, will be promoted through:

1) increasing line ministry and provincial governments' capacity to support adaptation at the community level;
2) substantially strengthening local implementation structures to ensure they are ready and able to identify local adaptation needs; and
3) the enduring links Save the Children has with communities in Vanuatu.

Any assets purchased for project implementation will be procured by government or handed over to key implementing agencies in the Vanuatu national government or Area Councils towards the end of implementation as will be mandated in a comprehensive Exit Strategy to be developed during the initial stages of implementation.

The project will be designed to avoid over burdening any one government delivery partner to avoid straining absorptive capacity and creating capacity constraints that delay project implementation. This is a key lesson from the implementation of a range of previous projects implemented in Vanuatu and the region. Working with a range of relevant departments will ensure no one department creates funding bottlenecks as has been the experience with some previous projects. The project will also provide direct technical assistance to Government departments and other delivery partners and supported through Save the Children's systems and national footprint. The breadth of the project will also help ensure community capacity is not overwhelmed. Working across all six provinces will enable us to spread the investment across space and time.

## 12.6. Efficiency and Effectiveness

CBA is a key component of Vanuatu's response to climate change. Accessing finance to support CBA actions at the scale required to create transformational change has been difficult for governments and civil society. Communities in Vanuatu are some of the least responsible for the emissions that are causing climate change, but they are among the first to suffer the impacts and will feel these impacts more acutely than people in wealthier, less hazard-exposed countries. The Government of Vanuatu is clear that significant external financing will be required if the country is to effectively manage the unavoidable impacts of climate change. The Government also struggles to balance the broad range of adaptation priorities (from protecting critical economic infrastructure to building local climate resilience).

This project will increase the accessibility of global climate finance to local communities. While there is a clear argument for non-grant-based finance, high co-finance and private sector funding for mitigation action, the argument for poor countries to finance their own adaptation actions in response to a problem stemming from the unregulated use of the global commons, or to take out concessional loans to do so, is less strong. It is even less strong when the ultimate beneficiaries are communities on low-lying islands facing an ever-harsher climate not of their own making. Investing in CBA pays dividends, but the Government of Vanuatu struggles to find the resources to meet current development needs in remote and rural communities, let alone proactively address anticipated future climate change impacts. The funding amount requested from the GCF for this project is commensurate with the scale of the problem and the Vanuatu Government's desire to take a nation-wide approach to addressing community adaptation needs.

It is clear that the Government of Vanuatu does not currently have sufficient funding to meet immediate adaptation needs at the local level. It is equally clear that most donor funds are not an adequate source of CBA finance, as they are shorter term and smaller scale. Grant funding is the most appropriate level of concessionality for CBA activities as they are of minimal interest to private sector finance and contain no direct repayment capacity. CBA activities that are not funded directly by government or are not self-funded by communities are not viable

without donor assistance. In the context of Vanuatu, the government does not have the capacity to meet adaptation needs and rural communities do not have the resources to self-support required adaptation actions. Further, as the adaptation packages approach is embedded in government systems and scaled out to the remaining communities across the country each intervention will become more cost effective as the communities remaining to be targeted are less difficult to reach and, relatively, less vulnerable to the identified climate change impacts. In effect, this project will undertake the most cost intensive component of this work – reaching a significant proportion of the most vulnerable and hardest to access populations – allowing the government to scale out the approach further to help meet the needs of easier to reach communities.

Implementing projects in Pacific SIDS entails higher costs than in many other developing countries, as the 'combination of extreme remoteness from major markets, very small size, dispersion over vast tracts of the Pacific Ocean, and environmental fragility results in very high cost of production of goods and services by both the private and public sector', leading to an assessment that the public sector is likely to remain the main source of formal sector employment and driver of economic activity in most Pacific island countries for the foreseeable future. This project explicitly aims to reach some of the most climate vulnerable communities in Vanuatu. These communities are often in the most remote and geographically challenging parts of the country, requiring significant logistical undertakings to bring people and goods to them. These challenges are a key element of why these communities are highly vulnerable to the impacts of climate change and have limited adaptive capacity. Reaching these communities is, necessarily, high cost, but, for a community-based adaptation project with the aim of meeting the immediate adaptation needs of the most vulnerable people, the cost is justifiable.

While the Government does not have access to sufficient finance to meet current adaptation needs, the country has the Pacific region's only functional Government Financial Management Information System. The FMIS is linked to a Single Treasury Account (STA), a single reporting system and a single chart of accounts. This means that all Government entities currently access all of their funds via the one system for both spending, reporting and commitment purposes. It is this total level of transparency and control that has enabled Vanuatu to be the first and, in many cases, only recipient of direct budget support from a wide range of donors including DFAT, the European Union, the US MCA, NZMFAT, UNICEF and others. The Vanuatu Government runs a fully centralised financial management system that has sufficient decentralised coverage through Government agencies in the islands (including Department of Finance). This system is functional and can handle significant flows of funding. Project resources allocated to Government IEs (including Department of Local Authorities and Provincial governments; Department of Agriculture, Department of Fisheries; Department of Climate Change; and National Disaster Management Office) will all flow through this centralised system and will be tracked and reported via MFEM.

An **economic analysis** (**Annex 3**) undertaken as part of the project's design phase examined four specific adaptation actions that are representative of the actions in the adaptation package menu:

- EWS communications equipment (EIRR of 111%)
- Nature based solutions – coastal management (EIRR of 12%)
- Climate resilient agriculture – taro and yam as examples (EIRR of 19% for taro and 27% for yam)
- Food processing and storage (EIRR of 81%)

The analysis shows that **all four of the adaptation measures have solid economic internal rates of return and can be justified on economic grounds**. The analysis shows that the selected measures will have a significantly positive economic impact for the targeted communities over the life of the project and beyond.

The report also undertook assessment of the incremental adaptation benefits of the four selected measures in the context of the overall project budget. This analysis showed the project has an economic internal rate of return of 3%, which, while positive, is below the discount rate. This is directly due to the size of the non-investment flows required to enable and support the adaptation investments, to ensure their long-term sustainability and to catalyse a paradigm shift in resilience in Vanuatu. However, **the analysis found that the project still presents a strong investment for the GCF**. An economic analysis cannot assess the non-economic, non-investment components of the project and, therefore, while the full project shows a just slightly positive economic return on investment, each specific investment shows a high rate of return on investment, and the non-investment costs will ensure the project leaves a substantial legacy of capacity for sustainability and more effective allocation and utilisation of future flows of climate finance. This does not imply a shortcoming of the project or its direct economic benefits, which, on a per-investment basis, are strongly positive. Rather it highlights some incompatibility of this method of assessment for projects delivering adaptation action in highly resource constrained and low-capacity contexts.

The analysis highlights three key reasons why the project budget includes significant non-economically assessable costs (non-investment costs). These are elaborated below as they are of fundamental importance to the project's success and ability to create transformational change in remote and rural communities that are highly vulnerable to the impacts of climate change.

1. The need to address significant capacity gaps and constraints at all levels (government at national, provincial and Area Council levels as well as at the community level) that undermine the effective development and implementation of adaptation actions – particularly in highly climate vulnerable rural and remote communities – and prevent the generation of a paradigm shift in resilience. The project's first component is focused on building institutional capacity at the local level to ensure that the project's adaptation investments (delivered via the adaptation package menu under Component 2) are feasible and are implemented in a strong enabling environment. Without these additional investments, the adaptation investments would be unlikely to be successful.

2. The need to ensure that the project leaves behind significantly increased institutional capacity to increase the sustainability and replicability of the project's adaptation investments and catalyse transformation. National and provincial capacity to support ongoing adaptation action in the targeted communities is vital, and investments under Component 3 of the project focus on this element, as well as helping ensure that the government has the capacity to scale up and replicate these adaptation investments in communities not targeted by the project.

3. The high cost of delivering projects in Pacific SIDS. It is important to note that implementing projects in Pacific SIDS entails higher costs than in many other developing countries, as the 'combination of extreme remoteness from major markets, very small size, dispersion over vast tracts of the Pacific Ocean, and environmental fragility results in very high cost of production of goods and services by both the private and public sector.'[16] This project explicitly aims to reach the most climate vulnerable

[16] *World Bank (2017) Pacific Possible. Available here.*

communities in Vanuatu to generate a paradigm shift in their resilience. These communities are often in the most remote and geographically challenging parts of the country, requiring significant logistical undertakings to bring people and goods to them. This also explains why the technical assistance and travel cost of the project is high compared to the investment costs.

The economic analysis found that **all four of the adaptation measures analysed have an economic internal rate of return significantly higher than the discount rate and can be justified on economic grounds**, and that **the selected measures will have a significantly positive economic impact for the targeted communities over the life of the project and beyond**.

Further, the analysis noted that the support provided by the non-investment costs **is appropriate to the context of Vanuatu** as a Pacific SIDS and recently graduated Least Developed Country, with significant institutional capacity gaps and constraints at all levels to develop and implement adaptation actions in the most vulnerable remote and rural communities. And, importantly, that **these non-investment costs are a critical component of ensuring the project generates transformational change and creates a paradigm shift in resilience for the most vulnerable communities in Vanuatu**.

The economic analysis concluded that the project represents an excellent value for money investment for the GCF. The full analysis is at **Annex 3 (a and b)**.

# 13. Sustainability and exit strategy

Six key sustainability strategies will be employed to ensure project impact will be sustained over time:

- **Building the evidence base to advocate for the national government to allocate future climate finance and other resources to support locally driven adaptation actions**. CBA projects have proved highly successful. However, the majority have been small scale and have struggled to gain traction beyond targeted communities. This project aims to build a substantial evidence base of the impact of CBA when taken to scale across the entire country. This will increase the likelihood of future climate finance flows in Vanuatu including an allocation to support CBA activities. This will be achieved via activities in Component 3, the project's MEAL (including an impact evaluation) and broader AE activities. The project will deliver 40 knowledge products to a range of stakeholders. The project will also work to support the Department of Local Authorities (DLA) to have at least 50% of the new staff hired for the project at the sub-national taken on as permanent staff in the DLA at the provincial and or Area Council level.

- **Allocation of national budget resources to local adaptation actions.** The project will work with provincial governments to integrate the risks of climate change as well as current and future adaptation actions into local planning and budgetary processes. Having adaptation actions included in formal budget submissions will increase visibility of the needs and capacities of communities and increase the likelihood of domestic resources being allocated to sustaining the impact of the project over time. A key aim of this project is to ensure communities are better positioned to access domestic resources for adaptation action. As Vanuatu's economy gets back on track and resumes projected growth trajectories, adaptation priorities at the community level may find domestic funding sources. Despite this, international climate finance will remain a

key source of adaptation support for the foreseeable future. A further key aim of this project is to ensure communities and sub-national governments are better positioned to access future flows of climate finance for adaptation action regardless of the source. Consultation with Department of Local Authorities during the feasibility study identified opportunities during implementation to have CDCCCs captured in the Decentralization Act and formally recognized in the service delivery structure as a way of getting them sustainable resourcing and supported. This is a key outcome the project will support by strengthening and funding CDCCCs. The project will deliver training to 145 government staff on integrating climate change risks and adaptation actions into local and provincial budgeting processes and support targeted officials to undertake adaptive budgeting processes during project implementation to influence future processes. The project's aim to have at least 50% of local level project staff maintained as permanent DLA staff by the project's conclusion, will also help increase local level capacity to access and utilize future flows of climate finance.

- ***Promoting local ownership***. All activities implemented at the community level will be based on community stakeholder engagement combined with climate impact information. Communities will determine how to implement and sustain the adaptation actions (from the adaptation package). This ownership over project activity implementation at the community level will increase the likelihood that activity outputs and outcomes will be sustained beyond the life of the project. Previous experience in developing and implementing CBA activities in Vanuatu and beyond has shown that the more engaged and in control community stakeholders are in how activities are implemented the more likely the outcomes are to be sustained and replicated. This approach is also in line with the Principles for Locally-led Adaptation[17], developed by a partnerships of peers formed under the Global Commission on Adaptation. Save the Children has endorsed the principles and will endeavour to fulfil them in our climate finance projects

- ***Ensure financial sustainability of the project.*** The project will aim to maximize GCF financing to address inevitable on-going operational and maintenance (O&M) related expenses associated with introduced adaptation technologies (including solar PV refrigeration and solar air driers) to reduce the likelihood of negative externalities such as equipment falling into disrepair or breaking down. Detailed strategies are included in the project activities that include training for target communities on installation, operation, maintenance and repair of all equipment, and budget to provide spare parts or training in using local materials for repairs and maintenance. This guidance on post-sale/installation O&M considerations will also be supplied to the DoCC on the selection and procurement of adaptation technology services for use in communities. Targeted trainings will also be provided to address long-term maintenance and operation challenges. A further key component of financial sustainability is the capacity of beneficiaries to maintain/expand project-supported adaptation actions over time beyond the life of the project. In the Vanuatu context, for remote and rural communities, the reality is that government support will be needed long term to support local level adaptation action. The project will work with government at all levels to increase capacity to access and effectively utilise future flows of climate finance, while also supporting communities to develop clearly articulated and prioritised adaptation plans, which include key investment options and opportunities. Supporting local producer groups to access markets for processed and preserved food products will also help increase incomes, increasing funds available for local adaptation actions. The project

[17] See https://www.iied.org/principles-for-locally-led-adaptation

will foster at least six partnerships between producer groups and private sector entities as examples that can be scaled out by industry actors with ongoing VCCI support.

- **Building capacity of governments and civil society's existing systems to enable improved service delivery of future climate adaptation initiatives**. The project will support the strengthening of existing government and civil society systems and staff, strengthening the nationally endorsed decentralized approach rather than re-organizing arrangements or introducing new structures. For example, fiduciary arrangements for the project will utilize a de-centralized financial management approach relying on pre-existing line structures located in the Corporate Service Units of each ministry. Similarly, the project will utilize Area Council structures and processes for implementation at the community level. The utilization and strengthening of these existing government systems (which may vary in effectiveness currently amongst Ministries and Area Councils) will provide improved capacity for national service delivery in the future. The project will help build strong coordination mechanisms within the 29 targeted Area Councils and increase the effectiveness of local-provincial-national connections and feedback loops. Increased connectivity of CDCCCs (via satellite internet connectivity supported by the project) is key to this increased coordination and cooperation, as real time data and information can flow in both directions. The connectivity will be sustainably financed by a) a government commitment to enhanced CDCCC connectivity and b) the ability of CDCCCs to on-sell unused data allocations to community members for a range of purposes – including the potential for online study programs linked to other adaptation actions and market engagement. The project's aim to have at least 50% of local level project staff maintained as permanent DLA staff by the project's conclusion, will also help increase local level capacity to deliver adaptation services over the longer term.

- ***Foster sustainable value chains in the local market.*** Food surpluses from agriculture and fisheries will be preserved and marketed through national private sector entities. Food preservation is essential due to the long distances and limited transportation options between the project sites and the main commercial and residential hubs of Vanuatu. Establishing the value chains ensures a small but steady supply of income to the community with which the operation and maintenance of the installed processing technologies can be supported over the long term. Once communities have realized the potential of marketing food surpluses, this may lead to autonomous growth without the need for further external financial support. For the private sector entities, engagement in the project and the creation of new commodity supply lines is expected to aid in the green economic recovery following the COVID-19 pandemic. Further, in collaboration with the VCCI, private sector partnerships will be identified and established to further support community-level enterprise and enhance access to markets, and, where possible, support producer groups to transition into micro or small enterprises (including support to identify longer term sources of finance for business development).

The planned VCCRP adaptation package and activities will continue to be scaled-out by implementing partners in the future after the project is completed as activities are designed to be modular and scalable. Specific activities can be increased, decreased or removed, depending on community circumstances.

# 14. Concluding statement

Vanuatu is one of the most vulnerable and highly exposed countries in the world to climate change and disaster risks. Most of the population is in rural areas and concentrated near coastlines, reliant upon marine resources for subsistence and commercial activities. This reflects the vital role the ecosystem and natural resources play in the lives of ni-Vanuatu communities as well as their high level of exposure and sensitivity to both slow and sudden-onset disaster events.

The archipelago nation is vulnerable to a range of hazards, including volcanic eruptions, earthquakes, tsunamis, cyclones, climate variability, storm surges, landslides, droughts and flooding. Projected climate change-related impacts in Vanuatu include the degradation of marine and terrestrial ecosystems, reduced availability of fresh water, shifts in crop seasonality of harvest, planting and fruiting, compromised food security; coral reef deterioration, reduced fisheries productivity, damage to infrastructure, loss of coastal land, and reduced economic growth and revenue generation (GoV 2015a).

As a result of these climate change impacts, there is likely to be an increased burden on government service delivery, increased demand on local DRR and CCA governance mechanisms, increased need for CIS, and a widening gap between adaptation needs and available support. Therefore, communities across Vanuatu suffer an existing (and increasing) 'adaptation deficit,' noted by high levels of exposure to frequent hazards coupled with insecure access to key services thereby undermining resilience.

The VCCRP aims to reduce this 'adaptation deficit' by directly address three key climate change challenges facing communities due to increasing frequency and/or intensity of extreme events, namely i) air and sea temperatures (including minimum, mean, and maximum daily temperatures and events such as heatwaves), ii) rainfall patterns (including increased duration of dry periods, changing frequency and intensity of extreme rainfall and ENSO associated rainfall, and iii) tropical cyclones (increasing intensity, not frequency, predicted including severe wind and waves, and intense rainfall and flooding). The project's components, activities and sub-activities are appropriately aligned to address these specific climate drivers and demonstrated needs of communities as validated by broad stakeholder engagement over the past several years.

By embedding the project's activities into existing and future government ministry corporate plans and department business plans, as well as the action plans and implementation plans of non-governmental stakeholders (e.g., NGOs, private sector, other CBA projects), the interventions delivered through VCCRP should over time become mainstreamed within government systems. Components focused on building adaptive capacity to reduce vulnerability for subnational stakeholders, such as provincial governments and Area Councils, will also focus on mainstreaming project activities focused on incorporating climate risk into strategic and business planning. Sustainability will be achieved by building the technical capacity of local stakeholders to undertake their own capacity and vulnerability assessments to inform their own local-level planning and budgeting processes.

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