

**Community-based disaster risk reduction and climate change adaptation:
exploring the effectiveness and sustainability of Community Disaster and
Climate Change Committees in Vanuatu**

Jackie Bubb

10th December, 2020.

A thesis submitted in fulfilment of the requirements for the degree of
Master of Philosophy
Auckland University of Technology

Abstract

Local communities are at the forefront when disaster happens. People cannot control natural hazards, however, they can work together to strengthen their capacities and identify ways to reduce vulnerability for improved disaster preparedness, response and recovery. Community Based Disaster Risk Reduction (CBDRR) aims to give a voice to local people so they can assess their own vulnerability and capacities and act upon reducing disaster risk. Non-government organisations (NGOs), in particular, have increasingly used CBDRR to provide a bottom-up approach that complements the resources and actions developed from the top down. One common way this has been achieved is through undertaking CBDRR activities with local disaster committees.

CBDRR approaches have been implemented in Vanuatu for about 30 years. In 2008 the National Disaster Management Office (NDMO) began endorsing NGOs to facilitate the development of Community Disaster Committees, now known as Community Disaster and Climate Change Committees (CDCCC), to better prepare, respond and recover from disasters. However, while CBDRR is extensively used to tackle disaster risk reduction (DRR), there is still limited understanding of both the effectiveness and sustainability of this approach. NGOs' involvement in CBDRR activities is generally restricted to the timeframes of projects, funding conditions and pre-defined goals from donor agencies. Monitoring and evaluation reports often focus on the impacts at community level immediately after NGOs have completed a project, but outcomes thereafter are not commonly understood nor even assessed. This thesis aimed to fill this knowledge gap by examining to what extent Vanuatu's CDCCCs are sustainably contributing towards effective DRR. This research adds to the disaster literature, in particular CBDRR, and the implications this has on policy and practices.

This study used participatory methods with CDCCC members on the one hand, and key informant interviews with local NGO and government staff working with CDCCCs on the other hand. The rationale for this methodological approach was to gather the views from Ni-Vanuatu people who have taken part in CDCCCs and to compare these with practitioners' views who were in charge of their facilitation. The research focused on Sanma and Tafea provinces because CDCCCs have been developed in these locations since 2010 and 2012 respectively. Vanuatu also has experience with multiple large-scale disasters such as the 2015 Tropical Cyclone (TC) Pam, 2017 and 2018 evacuations of Ambae Island following volcanic eruptions, and 2020 TC Harold. A total of six Focus Group

Discussions (FGDs) using participatory tools were conducted in Sanma and Tafea in April 2018, and five key informant interviews were conducted in Sanma from November 2018 to December 2018.

The results indicate positive outcomes including community involvement in early warning systems and activity in disaster response, such as being involved in initial disaster impact assessments and distribution of relief items alongside government and NGOs. However, the research identifies several challenges associated with the use of CBDRR. Communities advised they were unlikely to engage in formal CDCCC preparedness activities unless the implementing agency/NGO was present. Findings highlight that without adequate external support, including financial resources, CDCCCs are unlikely to function over time. There is also indication that rigid/one-size-fits-all implementation of CBDRR tool kits associated with the development of CDCCCs hinders both effectiveness and sustainability of such an approach. This includes the mandating of disaster committee roles, the prescribed forced representation of groups including women and people with disability, and the language used in the approach. There are indeed indications that the CDCCC framework could be modified to improve effectiveness including allowing community members to choose their own roles and for the CBDRR approach to build on existing socio-cultural networks such as churches and ni-Vanuatu chief and kastam systems.

This research concludes that CBDRR requires a careful balance of participation, accountability and integration to be both effective and sustainable over time. Communities should have the opportunity to consider trade-offs between development goals and decide what they would like to prioritise. The guidelines and frameworks that guide CBDRR must remain flexible, so that communities take ownership over funded programmes implemented by external agencies. Disaster committee structures must align with government level arrangements and have the flexibility to incorporate local and governmental leadership systems. Finally, CBDRR activities must fit with the resources available at the local community level, and that of the local and national government. It is hoped that practitioners, researchers, donors and community members continue to consider the impact and sustainability of CBDRR activities. It is urged that all practitioners, researchers, donors and community members reflect on the opportunities, challenges and trade-offs associated with CBDRR processes and outcomes so that direction of interventions fits the communities that they serve.

Acknowledgements

I would like first to thank my supervisor, Loic Le Dé. I appreciate his trust in me, support and ongoing patience. I will be forever grateful to Sista, Joanna Halili. I acknowledge Joana's expertise and the viewpoints of my other friends and fellow-colleagues in Vanuatu - their critique of this thesis will be truly appreciated, these colleagues are Kevin Kapalu, Sandra Silas, Eddy Maliliu, Shirley Johnson, Kelvin Willie, Yvette Camille, Fisher Young, Kensley Micah, Vomboe Molly, Kendra Gates Derousuessau, Christelle George, Candice Holt, Relvie Poilapa and all of those working in the National Disaster Management Office and the Disaster Risk Reduction sector. Thank you for all of our conversations. I hope the lessons you taught me are adequately captured in this work. Thank you to the community members of South Santo and Aniwa who participated in this study. I appreciate your participation, storian and the warm welcome you gave me. I also want to acknowledge the generous support and endorsement of Volunteer Service Abroad and World Vision Vanuatu. Finally, I am thankful for the ongoing support of my friends and family in Vanuatu and New Zealand: Brigitte Olul, Clemmie Newton, Rachael and Jaya Gardiner, Mick Kearney, Carola Cullum, Nadine and Michael Toy, Emily Richardson, Lis Mortensen, and to the Bubb family. Arohanui.

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed:

Dated: 11th December 2020

Contents

Abstract	i
Acknowledgements	iii
Attestation of Authorship	iv
Contents	v
List of Figures	vii
List of Tables	vii
Acronyms	viii
Chapter 1: Introduction	1
1.1 Rationale of the Research.....	1
1.2 Disaster Risk Reduction at the Community Level.....	4
1.3 An Introduction to Vanuatu.....	6
1.4 Research Question and Objectives.....	8
1.5 Thesis Outline.....	8
Chapter 2: Literature Review	10
2.1 Introduction.....	10
2.2 The Evolution of Disaster Risk Reduction.....	10
2.3 The Emergence of Community-based Approach to DRR.....	14
2.4 What Has Been Said About Operationalising CBDRR?.....	16
2.5 The Four Key Areas of Effective CBDRR.....	18
2.5.1 Participation.....	18
2.5.2 Integration.....	20
2.5.3 Accountability.....	23
2.5.4 Sustainability.....	24
2.6 The Three Key Pillars of Effective CBDRR.....	27
Chapter 3: Vanuatu as a Case Study	29
3.1 Introduction.....	29
3.2 Location and Landscape.....	29
3.3 The People of Vanuatu: Ni-Vanuatu and their Home.....	31
3.4 Community Disaster and Climate Change Committees.....	35
3.5 The Effectiveness of CDCCCs.....	38
Chapter 4: Method	40
4.1 Introduction.....	40
4.2 My Relationship with Vanuatu.....	40
4.3 Co-design Background.....	41
4.4 Objectives of the Study.....	45

4.5	Study Design.....	46
4.6	Part A – Community Focus Groups	48
4.6.1	Community Focus Groups Background	48
4.6.2	Participant Inclusion and Location	51
4.6.3	Data Collection	52
4.7	Part B – Key Informant Interviews Background	54
4.7.1	Participant Inclusion and Data Collection	55
4.8	Data Analysis	57
4.9	Ethics Approval.....	58
4.10	Conclusion.....	60
	Chapter 5: Results	61
5.1	Introduction	61
5.2	The Capacity of CDCCCs in Fostering Participation.....	62
5.2.1	The Capacity of the CDCCCs to Include All Voices.....	62
5.2.2	The Capacity of CDCCCs to Engage in DRR Activities	64
5.2.3	Exploring How CDCCC Members Participate (Or Do Not Participate).....	68
5.3	The Integration of CDCCCs into Local and National Government Strategy	70
5.4	The Integration of Development Can Be Beneficial and Detrimental to DRR	74
5.5	Accountability is Largely Impacted by Capacity and Resource Accessibility	76
5.5.1	CBDRR Activities are Restricted by Access to Resources	76
5.6	Practitioners/NGOs Require Opportunity to Learn and Develop Too	78
5.7	Sustainability of CDCCCs is Impacted by Challenges Associated with Participation, Integration and Accountability.....	80
5.8	Conclusion.....	82
	Chapter 6: Discussion	83
6.1	Effective Participation can be Hindered by Labelling and Forced Inclusion	83
6.2	Effective Participation in CBDRR Should Involve Flexible Roles and Responsibilities.....	86
6.3	Accountability Should Include the ‘Trade-Offs’ of CBDRR and Development Activities	88
6.4	CBDRR Must Consider the Capacity of Government and Local Resourcing to be Effective and Sustainable	91
6.5	Conclusion and Recommendations for Improving CDCCCs	93
6.6	Limitations of this Study and Suggestions for Future Researchers.....	95
	References.....	97
	Appendix One: Consent Forms.....	108
	Appendix Two: Participant Information Sheets [PIS]	110
	Appendix Three: Ethics Approval from the National Advisory Board of Vanuatu	114

List of Figures

Figure 1: Vanuatu disaster management structure	7
Figure 2: Capacity and vulnerability analysis framework	13
Figure 3: Road map for integrating knowledge, actions, and stakeholders for DRR.....	17
Figure 4: The pillars of effective community-based disaster risk reduction.....	27
Figure 5: Location of Vanuatu	30
Figure 6: Co-design workshop agenda.....	42
Figure 7: Co-design workshop notes: what do we want to know?.....	44
Figure 8: Workshop notes: why is this important?.....	45
Figure 9: Workshop notes: what are the consequences of this research?.....	46
Figure 10: Maps of the locations of communities selected for the focus groups	51
Figure 11: Timeline focuses on NGO interactions associated with DRR: transcribed from the community of Imatu	65
Figure 12: Ipayato community build a community evacuation centre.....	66
Figure 13: CDCCC chairwoman advises a community member on the track of a tropical low on a cyclone tracking map	68
Figure 14: Vanuatu disaster management structure	71
Figure 15: Community map: Ipayato community focus group	80

List of Tables

Table 1: Examples of Assets Associated with Human, Social, Economic and Natural Contexts	5
Table 2: The NDMO strategic plan mission statement and objectives.....	37
Table 3: Selected participatory tools	49
Table 4: Focus groups: location and participants	53
Table 5: Semi-structured interview participant demographics	55
Table 6: Summary of challenges and opportunities in the sustainability of CDCCCs	81

Acronyms

ACS	Area Council Secretary
AHP	Australian Humanitarian Partnership
AUT	Auckland University of Technology
AUTEC	Auckland University of Technology Ethical Committee
CBDRM	Community based disaster risk management
CBDRR	Community based disaster risk reduction
CCA	Climate change adaptation
CDC	Community Disaster Committee
CDCCC	Community Disaster and Climate Change Committee
CDRN	Citizens Disaster Response Network
CVA	Capacities and Vulnerability Analysis
DFAT	Department of Foreign Affairs and Trade
DRR	Disaster risk reduction
DRM	Disaster risk management
FGDs	Focus group discussions
NDMO	National Disaster Management Office
MFAT	Ministry of Foreign Affairs and Trade
NGO	Non-government organisation
NFI	Non-food item
PAR	Pressure and Release Model
PDCCC	Provincial Disaster and Climate Change Committee
PDO	Provincial Disaster Officer
SPC	Secretariat of the Pacific Community
TC	Tropical cyclone
UNISDR	United Nations International Strategy for Disaster Reduction
WVV	World Vision Vanuatu

Chapter 1: Introduction

1.1 Rationale of the Research

People are at the forefront of disasters. It is the impact a disaster has on people that influences the way a disaster is perceived (Quarantelli, 1998). There is a fundamentally indivisible interconnectedness between the natural hazards/natural environment and the social, political, and economic contexts (Wisner et al., 2003). Accordingly, a disaster can be defined as a serious disruption to the functioning of a community through material, economic or environmental losses, which exceed the ability of the affected people to cope using their own resources (United Nations International Strategy for Disaster Reduction [UNISDR], 2019). This definition has developed after practitioners and researchers connected disaster with everyday living (Hewitt, 1983; Wisner et al., 2003). Community Based Disaster Risk Reduction (CBDRR) emerged after civil society organisations acknowledged that people have agency. They are not merely passive actors impacted by hazards, but rather they have strengths that can be built upon and developed to influence how they fare in disaster.

The emergence of CBDRR in the 1980s and 1990s came with the idea that although people could not control natural hazards, they could make changes to their strengths and weaknesses which could influence disaster preparedness, response and recovery (Delica-Willison & Gaillard, 2012). Analysis of community strengths and weaknesses can highlight inequities whereby people have disproportionate capacity and vulnerability. Poor community members or communities may have few options other than to live in hazard prone areas due to their access to safe and secure land. Disaster Risk Reduction (DRR) aims to prevent new risk and reduce existing risk (UNISDR, 2015). The CBDRR approach aims to achieve this by giving a voice to communities to assess and act upon their risk, decreasing vulnerability and increasing capacity in attempt to reduce risk to disaster (Delica-Willison & Gaillard, 2012). CBDRR provides a way for practitioners to work with communities and advocates for the voices of all community members to be heard in disaster preparedness, response, and recovery.

Traditional approaches to disaster management focus predominantly on hazards, for example, studying the weather and atmospheric conditions, volcanoes, and so forth to understand and predict disasters. Such approaches do not acknowledge that the everyday

lives of people can influence disaster occurrence (Hewitt, 1983). CBDRR is popular amongst the Non-Government Organisation (NGO) sector where giving 'voice' to the 'community' involves 'participation' and 'empowerment' for a community in the decision-making process (Cornwall, 2003). At the community level, researchers and practitioners have focused on using participatory tools to allow for localised efforts in assessing and planning for risks and responding and recovering from disasters. One way this has been achieved is through undertaking CBDRR activities with local disaster committees who link to government arrangements with incorporations of scientific and traditional knowledge bases (Cronin et al., 2004). This can be seen in high-income countries where government facilitators coordinate community-based plans and disaster committees (for example, Emergency Management Southland, 2020), and similarly in low-income countries where NGOs and other development agencies have operationalised the approach – often linking them to local or national government plans (Delica-Willison & Gaillard, 2012).

Despite its popularity, the concept of 'community' has been critiqued with suggestions that it has become a 'moral license' that NGOs use to claim that their work is people centred and ethically justified (Titz et al., 2018). The terms associated with 'community' work, including 'participation' and 'empowerment', have been criticised as becoming vacuous with unrealistic outcomes (Cornwall & Brock, 2005; Leal, 2007; Cooke & Kothari, 2001). It has been acknowledged that 'participation' often means different things to different people and is thus used in different ways (Cornwall, 2008). In general, the participatory learning and action approach involves strengthening local-level voices, rights, governance and promoting social justice (International Institute for Environment and Development, 2020).

There are various funding mechanisms which external agencies are using to resource CBDRR projects. In developed nations funding may be both provided through the government and implemented by local government. For example, in New Zealand local government can contend for funding through the National Emergency Management Agency's (2020) Resilience Fund. In low-income countries NGOs often use international government grant funding to undertake projects. However, such funding and interaction with agencies is time bound. It is expected that once international agencies finish a project the learnings or activities are then continued by the local communities. It is acknowledged that assessments of CBDRR have been predominantly made by the agencies that have developed and implemented them (McGillivray et al., 2018). The NGO sector commonly uses monitoring and evaluation assessments as feedback to their donors on project

outcomes, usually at certain intervals during project implementation and/or shortly after the project is completed. Accordingly, these reviews assess only short-term impacts of the CBDRR/Climate Change Adaptation (CCA) activities (Delica-Willison & Gaillard, 2012). The NGOs are required to report back to donors on the successes and challenges of their programmes. NGOs are often reliant on grant funding. Those that receive funding are often successful due to their ability to demonstrate that they have bureaucratic orientation and consensus with government (Lu, 2015). This could imply that NGOs have completed evaluations associated with appeasing donors.

In a recent evaluation of the New Zealand government's international funding through the Ministry of Foreign Affairs and Trade (MFAT), it was advised that 'Activity Monitoring Assessments' and 'Activity Completion Assessments' were based upon internal or self-assessments. The authors suggested a potential bias due to the tendency to focus on the successes of a project rather than the less successful aspects of activities (McGillivray et al., 2018). At the same time academics' attention to CBDRR activities have primarily focused on the potential of CBDRR to generate learning and information and the opportunities and challenges associated with this. For example, there is a wealth of research on participatory tools and their ability to elicit data from the community's perspective (Cornwall, 2011; Chambers, 1994; Kumar, 2002). This leads to two major gaps in the research: (1) there is not a good understanding of what happens on the medium–long term after practitioners leave and resources are not injected into CBDRR projects; (2) there is limited understanding of the extent to which CBDRR approaches are truly successful in the long-term. These gaps raise question marks on how and if CBDRR and CCA initiatives continue after an implementing agency leaves the community, and how and if they achieve favourable DRR and CCA outcomes in a sustainable way. This study will explore these gaps using Vanuatu as a case study. It will look at the ability of these initiatives to endure over time to determine their sustainability. It is recognised that sustainability in the development sector can also refer to the ability to meet needs in the present without compromising needs for generations to come (World Commission on Environment and Development, 1987). While this has relevance in relation to specific development and DRR initiatives, it is the disaster committee's ability to function over time that is of interest in this research, and thus the way sustainability will be used in this study.

Vanuatu is of interest for several reasons. First, it is susceptible to a range of hazards. The Disaster Risk Index which rates risk based upon hazard exposure and vulnerability has

rated Vanuatu as first from 172 countries worldwide for as long as the index has existed, six consecutive years (Day et al., 2019). Second, Vanuatu has had recent disasters, including two category five cyclones, Tropical Cyclone (TC) Pam in 2015 and TC Harold in 2020. Due to volcanic unrest Ambae island has been evacuated twice, in 2017 and 2018. Finally, and most importantly, for many years it has been involved in CBDRR programming (Lamberti & Tamtam, 2016). Formalised disaster plans inclusive of community preparedness go back to 1989 where the Presbyterian Church supported disaster planning through the development of strategies (Ali, 1992). The long history of community-based disaster planning, emergency responses and the nation's susceptibility to hazards provides a good platform to consider the effectiveness and sustainability over time. The remainder of this chapter will provide a brief introduction to DRR and introduce Vanuatu as a case study. It will explain the CBDRR approach being taken in Vanuatu, namely the establishment of Community Disaster and Climate Change Committees (CDCCCs), and finally explain the research questions, objectives, and outline of the study.

1.2 Disaster Risk Reduction at the Community Level

A disaster can be considered a disruption to the functionality of a community which occurs due to the interaction between a hazard or hazards' exposure and the vulnerabilities and capacities of that community. This disruption can cause losses to the human, material, economic and environmental contexts of a community (UNISDR, 2017). Hazard exposure is often dependent on a geographical location and natural phenomena including volcanic activity, earthquake, tsunami and weather or climate related events. Human-caused hazards could include shipwreck, air accidents or rioting. Whether a hazard eventuates in disaster depends upon the interaction it has with a community. Accessibility to adequate water, shelter, food, varying livelihoods, income sources, education levels, wealth, and health are interrelated processes (Cannon et al., 2003). The location of where people live and work, the types of buildings they live and work in, and the infrastructure that supports their way of life are all factors which will influence the way a community or a person will be impacted by a hazard. Just as people do not have equal access to resources and opportunities, they do not have the same exposure to hazards (Wisner et al., 2003). Accordingly, vulnerability is influenced by different factors such as: ethnicity, age group, gender, if they have a disability or not, etc. (Wisner et al., 2012). In the same way these interacting classes, factors and process can have implications for vulnerability, they can also have influence on a person's or community's capacity to manage disaster risk.

DRR depends upon hazards, vulnerability and capacity (Delica-Willison & Gaillard, 2012; Birkmann, 2006; Cannon et al., 2003). Differing definitions of these concepts can consequently have different implications for policy and theoretical approaches to disaster risk (Gaillard, 2010). For the purpose of this study, vulnerability will refer to ‘the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of a community to suffer damage should a hazard occur’ (UNISDR, 2015). Capacity will refer to “the strengths, attributes and resources available within an organisation, community or society to manage and reduce disaster risks and strengthen resilience” (UNISDR, 2015). These definitions should not be considered as opposites. Vulnerability and capacity are not the flip sides of a coin but rather interrelated concepts where someone with high level of vulnerability may also have high capacities (Wisner et al., 2003; Gaillard et al., 2019). Both vulnerabilities and capacities can be factors categorised into the human, social, economic and natural contexts. Table 1 gives some examples of these.

Table 1: Examples of Assets Associated with Human, Social, Economic and Natural Contexts

Human	Social	Economic	Natural
Houses	Ethnicity	Family income	Terrain (hills, mountains, valleys, plains, forest)
Buildings	Age	Access to savings	Atmospheric conditions (humidity, air temperature)
Roads	Culture	Local government and national government financial situation	Weather conditions (sun, cloud, wind, rain)
Transport	Language		Proximity to water sources and the ocean
Communication	Gender norms		
Gardens and farms	Health		
Water systems	People with disabilities		
Aid posts/hospitals	Faith groups		
Schools	Social hierarchy and status		
Church	Level of education		
Community meeting places	Local and national political and institutional situation		

Note. This table was produced from capitals suggested by Scoones (1998) and assets and vulnerabilities described by Wisner et al. (2003).

What may be a vulnerability in one situation could be a capacity in another. Sometimes factors can be both a vulnerability and capacity (Wisner et al., 2003). For example, a high number of churches may bring together particular groups to be socially cohesive (Putnam, 2000). During emergencies churches have been recognised as providing assets, funds, resources, shelter and psychosocial support to community members. However, at the

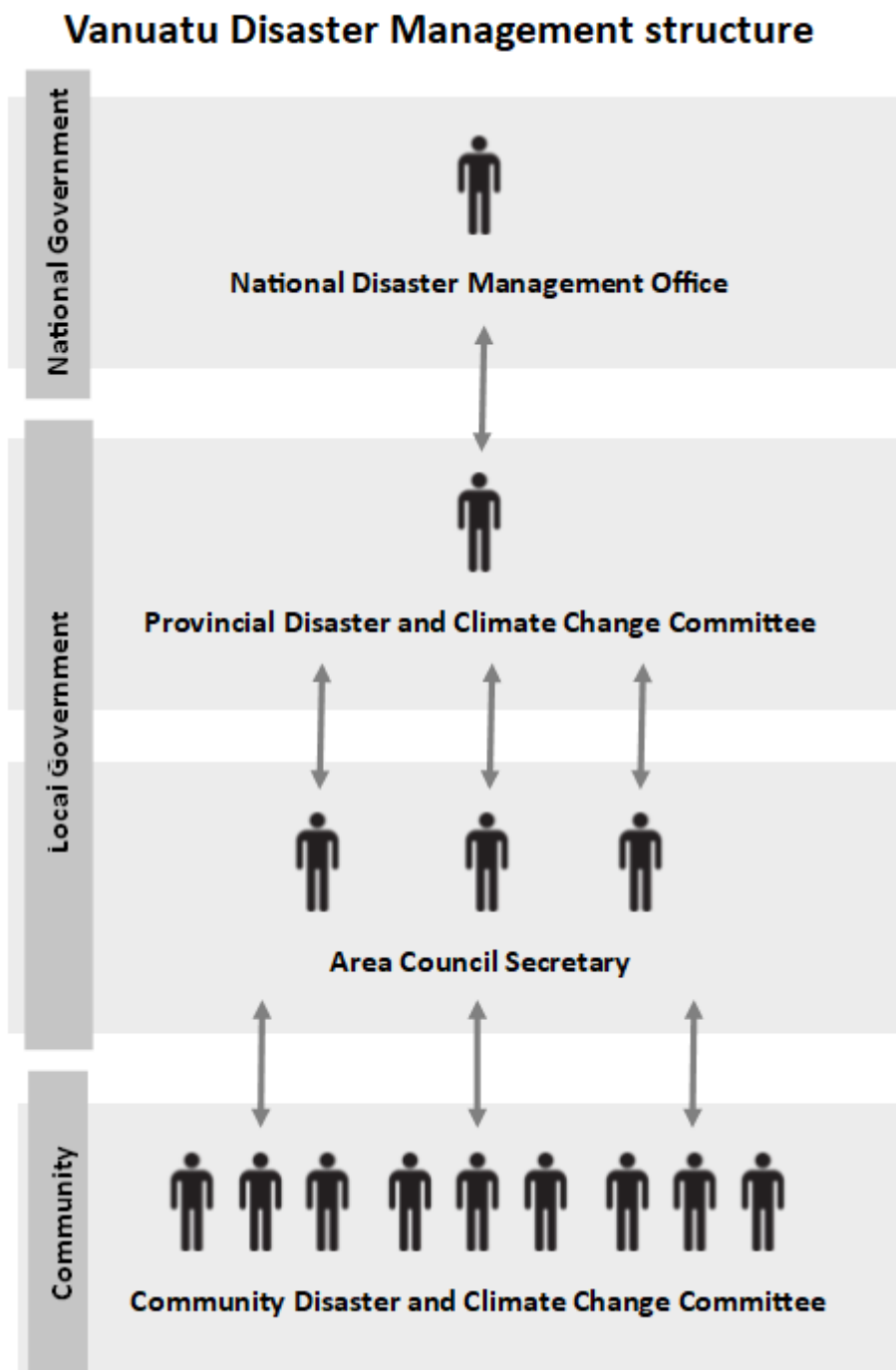
same time there has been concern that people not associated with the church or people that are physically unable to get to the church have been excluded or do not have equal access to such support (Fletcher et al., 2013).

Understanding a disaster through these processes and factors has allowed for an appreciation that people can influence their interaction with a hazard, and this has implications for the impacts of a disaster, or a hazard becoming a disaster in the first place. As changes occur in communities due to development and technology, so too does risk associated with new or changed vulnerabilities and capacities. Risk can be considered as the combination of hazard characteristics, exposure and vulnerability (UNISDR, 2015). This study will use Vanuatu as a case study and consider the way in which government, NGOs and community are working together to approach DRR.

1.3 An Introduction to Vanuatu

Vanuatu has been rated by the United Nations University's Institute for Environment and Human Security as the world's most at-risk country for natural hazards for as long as the risk index has existed, six consecutive years. The world risk annual report calculates risk based upon hazard exposure, vulnerability, capacity and susceptibility (Day et al., 2019). The community committee approach to disaster-related work in Vanuatu can be traced back to nearly thirty years ago where churches put disaster groups and plans in place (Ali, 1992). At their inception the Community Disaster Committees (CDCs) were established using CBDRR activities arranged through NGOs or development agencies (for example, *Vanuatu Red Cross's CBDRR handbook for local facilitator*, 2013). In 2008 the National Disaster Management Office (NDMO) began endorsing these agencies to facilitate the development of Community Disaster Committees (CDCs), now known as Community Disaster and Climate Change Committees (CDCCCs, Lamberti & Tamtam, 2016). The committees are developed at the community level and then connected to local government (through the Area Council Secretary, provincial government (through the Provincial Disaster Officer) and national government (through the National Disaster Management Office) as per Figure 1.

Figure 1: Vanuatu disaster management structure



Note. Adapted from Lamberti & Tamtam, 2016. Original structure was written in Bislama.

After Vanuatu was devastated by the category 5 TC Pam in March 2015 it was recommended that a unified approach be taken to developing and maintaining CDCCCs (Secretariat of the Pacific Community [SPC], 2016). Since then, a national NGO consortium, Yumi Redi, with the endorsement of the NDMO has developed a handbook for facilitators to establish and train committees (Lamberti & Tamtam, 2016). The TC Pam

lessons learnt report suggested that support to committees should be ongoing and consistent (SPC, 2016). Accordingly, NGOs and the Vanuatu Red Cross are now developing and training CDCCCs based on the standardised guidelines and tools in this handbook. These guidelines include a bottom-up and top-down approach where communities are encouraged to take ownership of their own DRR, CCA and response activities, while also being trained to work alongside outside aid agencies and the local and national government. As a case study these committees provide a good example of how a nation has taken on the international strategic direction (for example, the Hyogo framework of action: UNISDR, 2005; and the Sendai framework for disaster risk reduction: UNISDR, 2015), and the people-focused, top-down, bottom-up amalgamated approach with DRR and CCA across societal layers or levels (which has received significant academic appraisal. For example: Kelman et al., 2009; Gaillard et al., 2016; Mercer et. al., 2007).

1.4 Research Question and Objectives

The research question for this study is:

To what extent are Vanuatu's CDCCCs sustainably contributing towards effective DRR and CCA?

This research question will be answered by achieving the following three objectives:

1. To document the roles and outcomes of CDCCCs in DRR.
2. To explore the challenges and opportunities towards developing and maintaining effective and sustainable CDCCCs for DRR and CCA.
3. To identify the implications for policies geared towards effective CBDRR.

1.5 Thesis Outline

The research will explore these objectives through the following chapters. Chapter two will examine literature relating to community-based approaches in DRR and CCA. These studies provide evidence that effective CBDRR aligns with three key pillars which impact sustainability: participation, integration and accountability. Chapter three will develop the Vanuatu case study by detailing the way in which CDCCCs have been operationalised. Chapter four will detail the methodology associated with the current study's objectives. Specifically, it will explain how community focus groups from communities with CDCCCs

and key informant interviews with NGO representatives that are developing CDCCCs will be used to explore the sustainability and effectiveness of the CDCCCs. Chapter five will bring together the results from both the focus groups and key informant interviews outlining similarities and differences, consolidate a joint understanding of the current state of the CDCCCs, and explain how this relates to the study objectives. Chapter six will summarise all areas of the study. It will provide recommendations on how to increase CBDRR effectiveness and sustainability to researchers and agencies working with disaster committees.

Chapter 2: Literature Review

2.1 Introduction

A disaster is a disruption to the function of a community through material, economic or environmental losses which exceed the ability of the affected people to cope using their own resources (UNISDR, 2019). This definition recognises that disasters are local events, and their occurrence impacts people in many and differing ways. In everyday life people have interest in adapting their personal circumstances for their own wellbeing. Therefore, disaster risk reduction (DRR) must include people's participation in matters that affect their lives. This is endorsed by worldwide DRR efforts including the Sendai Framework for DRR (UNISDR, 2019). Civil society organisations have started encouraging local communities to be involved in DRR, often through a local disaster group or committee. These disaster committees commonly undertake a process including risk assessment, planning, preparedness implementation, and monitoring and evaluation of the preparedness activities (Delica-Willison & Gaillard, 2012). Amongst the Pacific Islands, Vanuatu has been very proactive in setting up disaster committees and encouraging a community-based approach to DRR (Lamberti & Tamtam, 2016). The nation has had recent disasters, including TC Pam, in 2015, Ambae evacuation in 2017 and 2018, and more recently TC Harold. These disasters have given opportunity to consider how community committees carried out their plans and how their preparedness activities impacted their disaster experience. This chapter will provide a review of the Community Based Disaster Risk Reduction (CBDRR) approach and how it has evolved over time. It will introduce four key common areas of research that are recurrent in DRR and development literature: participation, integration, accountability and sustainability. Finally, it will be suggested that these four key areas can be considered as a framework to operate effective CBDRR activities. This will set the scene for the introduction of Vanuatu as a case study in chapter three.

2.2 The Evolution of Disaster Risk Reduction

For a long time, it was assumed that natural hazards inflicted onto people caused disaster, leading to a strong scientific focus on the analysis and monitoring of natural hazards (Gaillard & Mercer, 2013). This has been named the "dominant hazard-focused viewpoint" (Hewitt, 1983) or "hazard paradigm" (Gaillard & Mercer, 2013, pp.93). This

approach places focus mainly on hazards as cause of disaster (Hewitt, 1983) and places a great emphasis people adjusting their behaviour to reduce risk (Burton et al., 1978). This led early DRR practitioners to rely on scientific experts (for example, meteorologists, volcanologists and seismologists) to understand, monitor and predict natural hazards to reduce hazard impacts on communities (Heijmans, 2009). This provides a top-down and command and control approach to managing disasters (Gaillard & Mercer, 2013), which does not recognise that people and communities are impacted by disaster in different ways and have different levels of vulnerability (Anderson & Woodrow, 1989; Hewitt, 1983). Hazard impact varies between different community members and different communities. For example, it is common to see disproportionate impact on rich and poor people, women and men, children and adults, and health impaired and healthy. There is an undeniable relationship between human and nature (Hewitt, 1983).

Since the 1970s it has been recognised that vulnerability influences the experience or occurrence of a disaster. O'Keefe et al., (1976) states "without people there is no disaster" (p. 556). Their publication titled "Taking the naturalness out of natural disasters" claims that a disaster has two elements. First, an "extreme physical phenomenon" and second "a vulnerable population". This is debatable as there is recognition that for some people daily life can be a crisis, as many vulnerable people are exposed to high levels of risk and crisis on an everyday basis (International Federation of Red Cross, 2006). The relationship between nature and people challenges the hazard paradigm (Susman et al., 1983). The vulnerability paradigm allows for the idea that voluntary and involuntary risks can increase or decrease vulnerability to disaster. There is recognition of variable vulnerability amongst and within communities, and there is acknowledgment that the "poor" or "marginalised" are disproportionately impacted (Anderson & Woodrow, 1989). Sometimes, this can mean community members are forced to take involuntary risks. For example, in the Rohingya Refugee Crisis displaced people from Myanmar have been forced to flee to Cox's Bazar, Bangladesh due to conflict and discrimination. They are taking shelter in camps where they face many challenges, including living in flood-prone areas impacted by monsoon (UNOCHA, 2019).

Two key frameworks have emerged to aid practitioners in understanding and reducing vulnerability (Twigg, 2001). These included: The Capacities and Vulnerability Analysis (CVA) (Anderson & Woodrow, 1989) and the Pressure and Release Model (PAR) (Wisner et al., 2003). It is suggested by these frameworks that disaster occurs due to the interaction between vulnerability and hazard exposure, and this can be expressed as:

Risk = Hazard x Vulnerability.

The PAR model does not quantify risk. It provides a tool for researchers and practitioners to reduce risk by making changes to the vulnerability of people and their property (Birkmann, 2006). Chambers (1989) warns against “simple explanations and single solutions” to vulnerability and poverty and suggests that people have vulnerability but also have assets (p. 40). Assets can be considered the capacity of communities. Chambers (1989) suggests that tangible assets can include labour force, access to food and ownership of livestock. These assets can be used as strategies of action for DRR.

The CVA framework includes vulnerability and capacity. It was designed specifically for NGOs to use in designing projects. It recognises the complexity of involving many stakeholders at different levels and with various natural and human factors (Anderson & Woodrow, 1989). Several researchers advise that many development interventions could have benefits, but also increase vulnerabilities (Anderson & Woodrow, 1989; Cohen & Uphoff, 1980; Burton et al., 1978; Briceno 2015). For example, newly built houses can improve shelter and living standards, but if earthquake resistant techniques are not used, these buildings can increase vulnerability. Therefore, the CVA framework is based on understanding capacities and taking steps to increase them while acknowledging vulnerabilities and reducing them. Figure 2 provides a CVA tool to analyse vulnerabilities and capacities using three key realms. First, the physical/material realm includes physical materials and conditions (for example, land, food, climate). Second, the social/organisational realm involves social and political systems and structures. Finally, the motivational/attitudinal realm includes the communities’ views and motivations.

Figure 2: Capacity and vulnerability analysis framework

Analytical framework: CVA analysis matrix

	Vulnerabilities	Capacities
<p>Physical/material</p> <p>What productive resources, skills and hazards exist?</p>		
<p>Social/organisational</p> <p>What are the relations and organisations among people?</p>		
<p>Motivational/attitudinal</p> <p>How does the community view its ability to create change?</p>		

Development is the process by which vulnerabilities are reduced and capacities are increased

Source: Anderson & Woodrow (1989)

These early frameworks allow practitioners and researchers to consider the socio-political interactions of DRR. The connections between hazard risk and social, political and economic environments are intrinsically linked within each community (Wisner et al., 2012; Birkman, 2006; Cannon et al., 2003). This linkage highlights the inability to separate disaster risk into mere hazard exposure. It shows everyday life choices and everyday ways of living are impacting levels and acceptance of risk (Wisner et al., 2012). A disaster occurs when an interaction between hazard exposure and a community's vulnerability and capacity causes a serious disruption to the function of that community (UNISDR, 2018). So, the PAR model can be expressed as Risk = Hazard x Vulnerability/Capacity. This is not intended as a mathematical formula but rather a qualitative measure used in capacity and vulnerability analyses (Cannon et al., 2003). The recognition that communities have power to influence how they prepare, respond and recover from disaster led to

researchers and practitioners focusing on participation and empowerment of communities in the wake of a disaster. This in turn has led to a focus on community decision making and engagement (Pandey & Okazaki, 2005). In the 1980s and 1990s this resulted in the community-based approach to DRR (Delica-Willison & Gaillard, 2012).

2.3 The Emergence of Community-based Approach to DRR

Capacity recognition involves identifying the knowledge, skills and resources that exist locally and are part of everyday life (Gaillard et al., 2019). Community Based Disaster Risk Reduction (CBDRR) uses a participatory process in which community members produce their own risk reduction analysis and activities which includes using and understanding capacities (Heijmans, 2009; Delica-Willison & Gaillard, 2012). Participation should allow for a transfer in power whereby community members have a voice in DRR practise and policy (Gaillard et al., 2019). Civil Society Organisations began operationalising and advocating for CBDRR after recognising people's diverse vulnerabilities and capacities. For example, Maskrey (1989) operationalised the PAR model in Peru. As a planner in earthquake-prone Lima, he noticed the city's poorest lived in historical Spanish buildings made of mainly adobe brick, which, compared to other building materials, is susceptible to earthquakes. Families were overcrowding these houses and the buildings suffered from overuse and little maintenance. Low rents meant that owners were unlikely to make repairs, and thus fragile water and drainage systems worsened. Maskrey (1989) noted these families were more at risk of disaster than other communities because of a complex process of societal change, which included urbanisation and industrialisation leading to unemployment and economic disparity. Maskrey (1989) supported community voice and local level government involvement in DRR and recommended several changes that would reduce the vulnerability of these families. Changes included increasing employment rates, altering housing tenures to allow tenants to maintain rental properties, and changing transport routes to give families greater accessibility to other locations.

At a similar time, examples of what is now consider CBDRR were emerging in other places. In 1985 in the Philippines a network of citizens formed calling themselves the Citizens Disaster Response Network (CDRN). CDRN considered the reasons people are vulnerable to disaster, and how different levels of vulnerability interact with policy and development processes (Heijmans, 2009). At first these early initiatives were viewed suspiciously from governments and often not taken seriously by the hazard-focused scientific and technical sectors (Maskrey, 2011). The CDRN highlighted social inequities which the government

could face criticism for failing to address (Heijmans, 2009). In the 1990s individuals and civil society organisations involved in such initiatives began to band together. Networks promoting CBDRR emerged including the Network for Social Studies on Disaster Prevention in Latin America (known as LA RED), Duryog Nivaran in South-Asia, and Peri Peri in Southern Africa (Maskrey, 2011). This increasing recognition that local communities have knowledge about their capacities and vulnerabilities led to a bottom-up approach to DRR (Wisner et al., 2012). It is now common in DRR guidelines developed by civil society organisations to include community hazard, vulnerability and capacity assessments followed by plans of action. Examples include: Red Cross's *Vulnerability and Capacity Assessment* (International Federation of Red Cross, 2006), Care International's *Climate Vulnerability and Capacity Analysis* (2009) and Oxfam's *Participatory Capacity and Vulnerability Analysis* (2012). Each of these guidelines led practitioners to take community members through a participatory process of identifying, analysing and acting on risks.

Participation is integral to such approaches and associated tools (Chambers, 2010; Botes & Rensburg, 2000). Through participation people are central to their own development as they decide on the need and corrective interventions (Cooke & Kothari, 2001). While, 'participation' can have various meanings (Cornwall, 2008; Chambers, 2010; Pretty, 1995; Cooke & Kothari, 2001) its main use in CBDRR and in all the NGO's assessments mentioned above is to find out local priorities, opinions, and give ownership of the risk reduction process. Such community-based approaches consider localised "culturally and socially acceptable, economically and politically feasible ways of coping with and avoiding crises related to natural hazards" (Delica-Willison & Gaillard, 2012, p. 672). As community-owned and bottom-up DRR increases in popularity in recent years, the NGO sector has advocated national governments to endorse and support CBDRR in policy, planning and programming (Davis & Murshed, 2006; UNISDR, 2015).

The attention to CBDRR through assessing and adjusting vulnerabilities and capacities has led to an international focus on preparing, responding and recovering from disasters. The Hyogo Framework for Action (2005 – 2015) set out to:

"Promote community participation in disaster risk reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources". (p. 7)

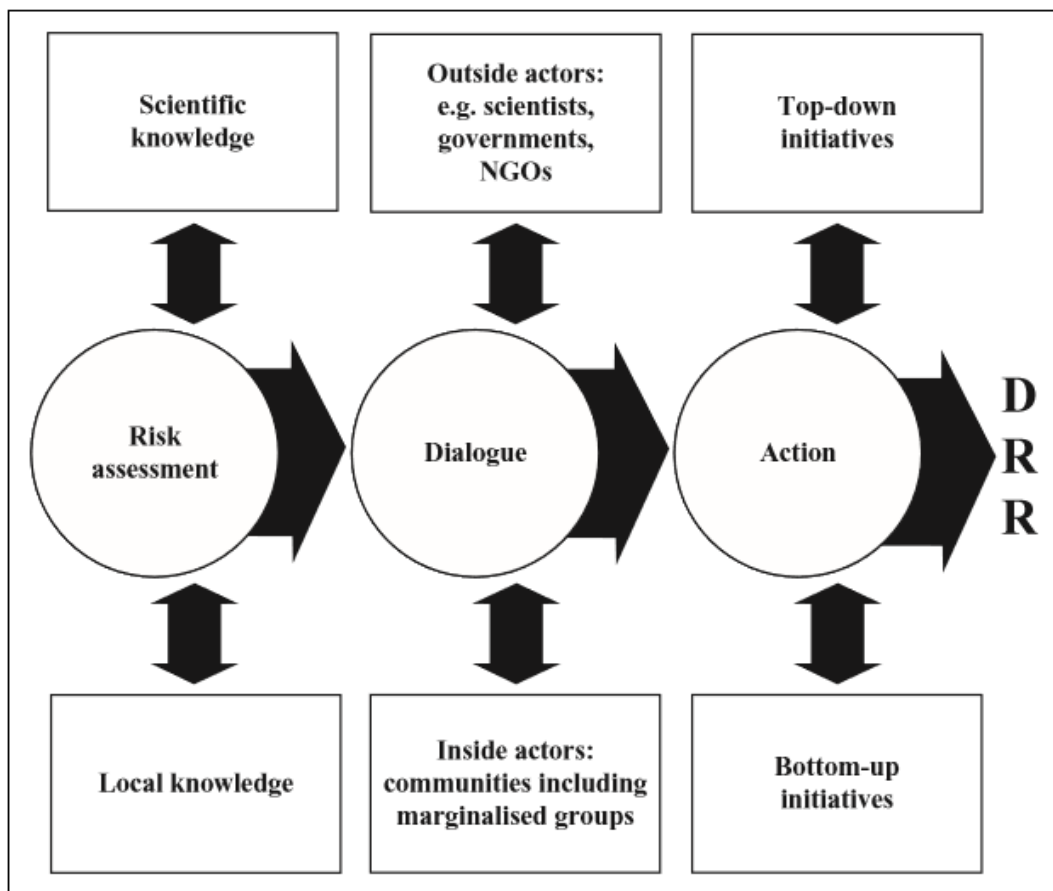
Following this the Sendai's (UNISDR, 2015) took the approach further by including the disaster risk reduction goal: "To ensure the use of traditional, indigenous and local knowledge and practices, as appropriate, to complement scientific knowledge in disaster risk assessment and the development and implementation of policies" (p.15). The priorities for action include: "Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment" (p. 5). Understanding 'risk in all of its dimensions requires an amalgamation of knowledge from the community level to government and between traditional knowledge and scientific knowledge.

2.4 What Has Been Said About Operationalising CBDRR?

The concept of community has become a useful description and framework for NGOs to explain the geographical spread of a particular programme and to target particular members from within a community – women, youth, people with disability and so forth (Cannon & Schipper, 2014). This is helpful in allowing NGOs to show donors adherence to policy such as the Sendai framework (UNISDR, 2015) and for their own budgeting purposes in providing a framework for resource allocation. However, the way in which the term 'community' is used has been criticised. First, to determine a 'community' by geographical location or to class a demographic or group as a 'community' may assume that community is homogenous (Cannon & Schipper, 2014). A homogenizing view of a particular demographic risks ignoring internal differences and conflicts within people from that 'community'. Second, research suggests community 'elites' may over-represent or hold greater power than other community members (Dutta, 2009). Communities have internal power relations which means representation of community members or groups may be distorted and unfairly favour some people or groups. Community based assessments such as VCA intend to empower community members through their involvement yet they do not address the reason vulnerabilities exist (Cannon & Schipper, 2014). In addition to internal variation within a community, there are also external influences and spheres of power affecting particular communities. Communities exist within a socio-political environment where there are various levels of governance. This environment is constantly changing with development and technological advances. In addition, there is recognition that climate change is altering the environment, and that Climate Change Adaptation (CCA) efforts are inclusive of many DRR activities and

initiatives. Therefore, there is acknowledgment that best practice of effective DRR includes a united top-down and bottom-up approach to prepare for the changing environment (Kelman et al., 2009; Gaillard & Mercer, 2014). This combining of disciplines, knowledge, approaches and societal levels (that is, government levels) can be a difficult area to navigate. These levels should work with one another and avoid isolated attempts to reduce risks. Figure 3 illustrates the interaction between scientific knowledge and local knowledge, internal and external actors, and top-down and bottom-up initiatives for DRR.

Figure 3: Road map for integrating knowledge, actions, and stakeholders for DRR



Source: Gaillard & Mercer, 2013.

The road map provides a clear visualisation of the complexity of community-based work for DRR. This map has significant relevance for CBDRR and the focus of this paper. It provides CBDRR directions for communities to work with NGOs and government officials by combining local knowledge with scientific knowledge and using both top-down and bottom up approaches to DRR including CCA activities (Gaillard & Mercer, 2013; Mercer et al., 2010; Wisner, 1995). While this is useful in understanding the wider environment in which CBDRR must operate, the effectiveness of the approach is somewhat complicated. Four key areas related to effectivity stand out: participation, accountability,

sustainability and integration. These areas will be examined in more depth in the next section.

2.5 The Four Key Areas of Effective CBDRR

In CBDRR literature there are four recurring areas: Participation (Cornwall, 2008; Heijmans, 2009; Gaillard & Mercer, 2013; Anderson & Woodrow, 1989), integration (Delica-Willison & Gaillard, 2012; Gaillard & Mercer, 2013; Mercer et al., 2010; Wisner, 1995) accountability (Gibson & Wisner, 2019; Twigg, 1999; Paripurno & Jannah, 2011; Edwards & Hulme, 1996) and sustainability (Ashley & Carney, 1999; Lassa et al., 2018; Gaillard & Mercer, 2013). These areas have overlapping relevance with one another which provides various opportunities and challenges to operationalising CBDRR theory and policy.

2.5.1 *Participation*

Integral to all CBDRR programming is 'participation' (Gaillard & Mercer, 2013; Heijmans, 2009). In the development sector participation refers to the formation of collective meaning (Bhattacharyya, 2004). This definition allows for development to occur through social action based on shared agreement in a particular location (Bhattacharyya, 2004). Yet the way 'participation' occurs is fraught with controversy. It has been criticised as becoming a 'buzz word' for NGOs and other agencies (Cornwall & Brock, 2005; Leal, 2007) causing a 'tyranny' (Cooke & Kothari, 2001) that it is 'plagued' with complexity and difficulty (Botes & Van Rensburg, 2000). These critics do not seek to stop or discourage participation. On the contrary they seek to highlight the attention and considerations necessary to achieve effective and social and culturally appropriate participation. Participation means different things to different people, and the term is used in different ways. There is a great variance in what researchers and practitioners consider to be 'participation.' Among these differences some have identified a spectrum of genuine and more tokenistic approaches, and so some researchers have suggested hierarchical tiers to levels of participation. At one end is consultation-type participation whereby participants are involved in some form of awareness type activity (Cornwall, 2008). At the other end of the spectrum there could be citizen control (Arnstein, 1969) or self-mobilisation (Pretty, 1995), which are more organic type of participation.

CBDRR is driven by empowering local communities (Freire, 1970; Hore et al., 2020). There is acknowledgement that empowerment should go beyond analysing, planning and leading DRR activities and also include building knowledge and challenging the policies and decisions of authority (Heijaman, 2009). This concept of empowerment relates to inclusivity, whereby vulnerable communities or community members are given a voice to plan and license to act. The inclusivity aspect of empowerment is a key component to participation and integration in CBDRR (e.g. Heijmans, 2009; Gaillard & Mercer, 2013; Anderson & Woodrow, 1989; Hewitt, 1983). This body of research advises that inclusive participation approaches are undertaken with care and contextualisation. There is a suggestion that labelling groups and the consequential treatment towards discrete social groups could undermine economically and socially significant relationships that exist in the community context (Moncrieffe & Eyben, 2007). The way in which groups or representatives contribute is important. Being present during CBDRR activities is different from having active engagement and/or having the social mandate to contribute and be a decision-maker in that process (Cornwall, 2008). This examination of inclusivity highlights well the complexity of participation.

Within literature on participation is the idea that empowered communities can generate new knowledge and challenge authority (Heijmans, 2009). There is also the suggestion that CBDRR can provide a platform for socially and culturally appropriate risk reduction (Delica-Willison & Gaillard, 2012). It could be suggested that these ideas may be contradictory. For example, often, gender balanced decision making is unequal as women frequently have less power in decision making. There is acknowledgement that women are disproportionately impacted by disaster, and there is support for women to be included in DRR (Bradshaw & Fordham, 2014; Enarson & Fordham, 2001). However, to empower women to be included in decision making requires a challenge to women's subordinate roles and deeply entrenched power relations in society (Enarson & Fordham, 2001). Some programmes are criticised for focusing on 'community' whereby practitioners have alluded to a grassroots level without due diligence examination of how the socio-political context of that community is understood. Research has suggested processes ought to be put in place to ensure participation is not confined to community 'elites.' Buggy & McNamara (2016) found that some community based CCA projects were unsuccessful due to their inability to encompass social dynamics, power relations and changing traditional norms. The way in which community members are empowered to participate meaningfully is therefore important, and the process by which this occurs will

require intentional consideration specific to each community context. Successful CBDRR requires trust between agencies and the community, which takes time to develop (Gaillard & Mercer, 2013).

To achieve community-led DRR and ownership over DRR analysis and activities, a bottom-up approach is required (Wisner et al., 2012; Gaillard & Mercer, 2014; Mercer et al., 2010; Wisner, 1995). A bottom-up approach allows DRR activities to fit into the social and cultural context. However, communities do not operate without support from the top. They link into intermediate, national, and sometimes international levels to prepare for risks and ultimately be better prepared and coordinated during a disaster (Delica-Willison & Gaillard, 2012). This means that to be successful CBDRR also needs to encompass top-down processes as indicated in the road map for integrating knowledge, actions, and stakeholders for DRR (Gaillard & Mercer, 2013). The combination of bottom-up and top-down processes can combine the knowledge bases of all actors involved in an emergency. Combining indigenous knowledge and scientific knowledge can allow for an informed approach to reducing vulnerability to natural hazards (Wisner, 1995; Mercer et al., 2010). CBDRR relies on people's participation and empowerment through development-oriented activities and a multi-stakeholder approach (Delica-Willison & Gaillard, 2012). Figure 3 recognises these principles have overlapping implications for participation, integration and accountability.

2.5.2 Integration

Continuing from the discussion of participation, integration also has implications for who participates and how. Here integration refers to the inclusive involvement of various groups and all forms of knowledge that those groups bring. This includes first groups and knowledge from within that community, and second external agencies or actors that have or can have influence in that community. For example, integration could include local or national government departments such as health, social, legal or land use services. It could also include NGOs that support that community or private enterprise such as phone or electricity providers.

CBDRR's operationalisation of inclusivity can be done through identifying and integrating various community groups. For example, one of the activities listed in Oxfam International's *Participatory Capacity and Vulnerability Analysis* (2012) involves participants categorising their community into various populations. The community

members are encouraged to identify their own internal population groups. Oxfam International (2012) suggests including: adults/children; older adults/younger adults, people with disabilities/people without disabilities; people who are able to work/people who are unable to work; boys of school age attending or not attending school; girls of school age attending or not attending school; and people from a minority ethnic group/people from the majority ethnic group. These suggestions are consistent with demographics that are commonly considered in literature relating to vulnerability (Wisner et al., 2012). For example, women, people with disabilities and children and other marginalised groups are often seen to be more at risk of the impacts of a disaster. Therefore, many CBDRR projects have put measures in place to ensure these groups are included. Yet, a recent international study found that community focused participatory development projects in 21 different low- and middle-income countries had little or no impact on social cohesion and governance (White et al., 2018). Despite including activities to improve inclusive participation, the study found no evidence to support the impact of such activities. Anderson (2019) suggests that such projects which purposely included women, marginalised groups and other minorities did not extend empowerment beyond the boundaries or requirements of the project. In other words, even though vulnerable populations were included in a project, the vulnerable population was not any more empowered or raised in status than before the project. Any potential changes are likely to emerge very slowly and minimally over decades, as opposed to the three – five years of the project's duration (White et al., 2018).

Theory and policy promote a top-down and bottom-up approach to combining 'local knowledge' and 'technical knowledge' (Wisner, 1995) or 'indigenous knowledge' and 'scientific knowledge' (Delica-Willison & Gaillard, 2012; Gaillard & Mercer, 2013; Mercer et al., 2010; UNISDR, 2006; UNISDR, 2015). However, there is limited literature on how to successfully operationalise such an approach (Mercer et al., 2007). Cronin et al. (2004) provide one example with their Vanuatu-based research that includes the development of a community disaster risk plan. The plan was made locally with community members and external actors, or so-called 'experts', as participants. These so-called 'experts' included local government staff, emergency services, NDMO staff, seismologists and geologists. This allowed for the successful amalgamation of knowledge to develop a community level plan with links to local and national government activities and support. The largest challenge to their study was ensuring the inclusive participation of all voices. There was recognition that those considered less powerful including women, youth, and

non-landowners were not necessarily well represented. The researchers found it difficult to achieve inclusive participation from those vulnerable groups in a male-dominated hierarchal society (Cronin et al., 2004).

Cronin et al. (2004) provide a case study for the successful inclusion of a broad range of stakeholders including, for example, health, education, water and sanitation representatives. As disaster impacts various sectors (e.g. housing, agriculture, education, health and infrastructure), DRR and CCA activities are often mainstreamed into development related work. DRR and development have been described as two sides of the same coin and can thus be addressed in unison (The Asian Disaster Preparedness Center, 2006). As development and change occurs, communities adapt to prepare for the challenges that arise in a changing environment (Kelman et al., 2009; Gaillard & Mercer, 2013). It is therefore important that DRR considers past knowledge and uses this to fit future lifestyles and ways of living. This is sometimes referred to as 'mainstreaming' and 'crosscutting' (Secretariat of the South Pacific Community, 2016). Mainstreaming integrates DRR and CCA into development work (Kelman et al., 2017). Crosscutting refers to intentional interlinking of multiple sectors and stakeholders. One example might be the interlinking of health, education, water and sanitation, social assistance, energy, agriculture, fisheries, forestry, culture, tourism, mining, environment, transport and infrastructure (Pacific Community (SPC), 2016).

This case study reflects the UN's 17 Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. The Sendai Framework for Disaster Risk Reduction (2015-2030) aims for "the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries" (pp.12). The 17 Sustainable Development Goals (SDGs) are crosscutting goals which include zero hunger, affordable and clean energy, decent work and economic growth, gender equality, clean water and sanitation, and climate change. Overall the SDGs aim to "to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind". So, funders of DRR and CCA activities who have aligned themselves with Sendai and the SDGs look to reward implementers and practitioners who can demonstrate integrated programming (e.g. the NZ and Australian governments: Department of Foreign Affairs and Trade, 2018; Ministry of Foreign Affairs and Trade, 2019). Implementing agencies have incorporated these frameworks into their programming. One example is the Australian Humanitarian Partnership (AHP) (2018) fund, which is providing 50 million AUD to Fiji,

Papua New Guinea, the Solomon Islands, Timor-Leste and Vanuatu for disaster preparedness. AHP advises that this funding is part of the Australian government's commitment to the Sendai Framework and SDGs. Agreement to adhere to institutional frameworks means that actors and agencies involved in CBDRR programmes can be held accountable for their actions (Twigg, 1999; Paripurno & Jannah, 2011). Therefore, this accountability requires the various integrated levels of CBDRR actors inclusive of all of those involved: community members, government agencies, civil society organisations, funders, and practitioners (Twigg, 1999).

2.5.3 Accountability

Accountability has been referred to as a key principal of community involvement and participation (Twigg, 1999), and is therefore integral to effective CBDRR programming. Adhering to institutional frameworks requires accountability from actors (Twigg, 1999; Paripurno & Jannah, 2011), however the way this happens can be controversial due to different motivations for CBDRR programming. Just as community members are impacted by their beliefs, attitudes, and motivations (Anderson & Woodrow, 1989), so too are the various agencies (Twigg, 1999). Aid agencies and practitioners may have differing and sometimes conflicting motivations between their desires to help, their own mandates, the mandates of the donors or funders, and the mandates of the institutional frameworks from which they operate (Twigg, 1999). The way in which these agencies frame their 'success' has been criticised as not measuring outcomes, but rather 'theoretical benefits.' The multi-layered arrangements between international NGOs, local NGOs and local government (with low capacity) influence the way this success is measured and interpreted. This means the results of such projects are largely unknown (Blaikie, 2006). In a recent evaluation of the New Zealand government's international funding, the Ministry of Foreign Affairs and Trade (MFAT) advised that 'Activity Monitoring Assessments' and 'Activity Completion Assessments' are largely from internal or self-assessments. The authors suggested a potential bias because of the tendency to focus on the successes of a project rather than the less successful aspects of activities (McGillivray et al., 2018). It therefore becomes important to consider the economic and political feasibility of CBDRR. Communities, practitioners, civil society agencies and governments have various economic parameters and political alignments. For example, NGOs rely on donor funds or international government funds that are provided based upon alignment with the donor, and political alignments including agreements to align to the Sendai

framework and UN sustainable goals. While CBDRR in theory promotes empowerment and community owned solutions, this empowerment and these solutions must fit within the political and economic environments in which it exists. Political frameworks and motives and economic parameters are often time bound, so it is appropriate to consider how CBDRR will be sustained over time through community development and change.

The accountability of NGOs to their donors has been referred to as 'upward accountability' (Edwards & Hulme, 1996). This accountability to donors, trustees and government regulators means monitoring and evaluation can be skewed to meet the priorities and intentions of the strongest stakeholder. The strongest stakeholder is commonly the donor, and so NGOs seek to show that project funding is well budgeted and spent according to the outcomes agreed upon with the donor (Edwards & Hulme, 1996). Such outcome-focused assessments appear juxtaposed to CBDRR's focus on people and the participatory process striving for empowerment. 'Downward accountability' includes the beneficiaries, staff, and supporters of an NGO (Edwards & Hulme, 1996). In the context of CBDRR this would include all local participants of the CBDRR activities. Downward accountability is difficult to achieve in an environment where NGOs are often aligned to donor-based outcomes. For example, Bawole & Langnel's (2016) study of community planning in Ghana found that despite engaging in participatory processes, the outcomes of the project were limited to endorsement of pre-prepared plans and decisions. Therefore, the engagement in this case was tokenistic and lacked empowerment of local participants. The constraints attached to funding have been recognised as detrimental to effective CBDRR (Gibson & Wisner, 2019). It is thus recommended that to be effective DRR and CCA activities should focus on downward accountability with local-level learning. This requires critical management of funding and accountability (Gibson & Wisner, 2019). The accountability to donors also has strong overlap with the sustainability of a project. For instance an emphasis on meeting donor's outcomes within a particular time frame can lead NGOs to make assumptions that short-term outcomes will lead to long-term outcomes, when that may not be the actual case (Gaillard & Mercer, 2013).

2.5.4 Sustainability

NGOs suggest to donors there will be an array of lofty outcomes from short-term CBDRR projects (Gaillard & Mercer, 2013). There appears to be an assumption amongst NGOs that activities will lead to long-term outcomes. For example, it is noted that the inclusion of

CCA into more recent CBDRR programming has led to an emphasis on long-term outcomes and sustainable solutions (e.g. Care International's *Climate Vulnerability and Capacity Analysis 2009* and Oxfam International's *Participatory Capacity and Vulnerability Analysis, 2012*). However, there is limited research to back up the longevity of project outcomes (Lassa et. al., 2018). As grant and donor funding is finite, CBDRR projects have frequently reviewed and assessed short-term impacts of the CBDRR/CCA activities (Delica-Willison & Gaillard, 2012). Recently, Lassa et al. (2018) attempted to address some of this shortfall by looking at the long-term application of CBDRR in Indonesia where NGOs started implementing activities in the 1990s. There were some examples where a project's adaptation activities had been sustained. One example of this is that some community members had incorporated protection of water wells; however, other activities under the programme had not been followed through, including the construction of flooding embankments. It was suggested that this was partly due to the complexity of working relationships between the community and external agencies. Lassa et al. (2018) stressed the importance of interlinking CBDRR work across sectors and stakeholders. The study suggested that CBDRR work can develop guidelines and activities for community activities, but that implementation is constrained by a lack of available resources. It suggested that social change takes longer than NGOs' and donors' expectations, and a long-term commitment to working together—across all sectors and stakeholders—would be required for future action to be more successful.

Part of the issue in understanding sustainability is that it is difficult to measure. This difficulty is caused by the trade-offs of different types of vulnerabilities (Ashley & Carney, 1999). The types of sustainability suggested for sustainable livelihoods includes social, economic, environmental and institutional (Ashley & Carney, 1999). If these are to be considered in a CBDRR context, there is clear relevance and application. For a long time, it has been acknowledged that economic advancement through development and technology relies heavily on environmental resource. The World Commission on Environment and Development (1987) acknowledged that for economic gain people "borrow environmental capital from future generations". A recent example includes international demand for agricultural and timber resources (associated with increasing revenue through agricultural advancement) which is recognised as the key driver of tropical deforestation (Henders et al., 2015). While people improve their livelihoods through advances in agricultural development (increasing capacity) deforestation leads to increases in carbon emissions associated with climate change and alters natural hazards

due to the changes in land use (increasing vulnerability) (Henders et al., 2015). As deforestation is a human induced activity, it is impossible not to separate it from social and economic sustainability. Geist & Lambin (2002) suggest deforestation is driven by social triggers including changes to demographics, economics, technology, policy, and social-political factors. For example, here economic gain leading to better social outcomes is perhaps traded for environmental resource. There are clear links between social, environmental, and economic sustainability. As people evolve and change, so too do lifestyles, cultures, and belief systems (Inglehart & Welzel, 2005). Globalisation can bring about change that increases and decreases risk. It also brings new risks (Benson & Clay, 2003). Not only does globalisation change people but it is also driven by people. It is therefore important that disaster risk activities consider changes to people and their way of life.

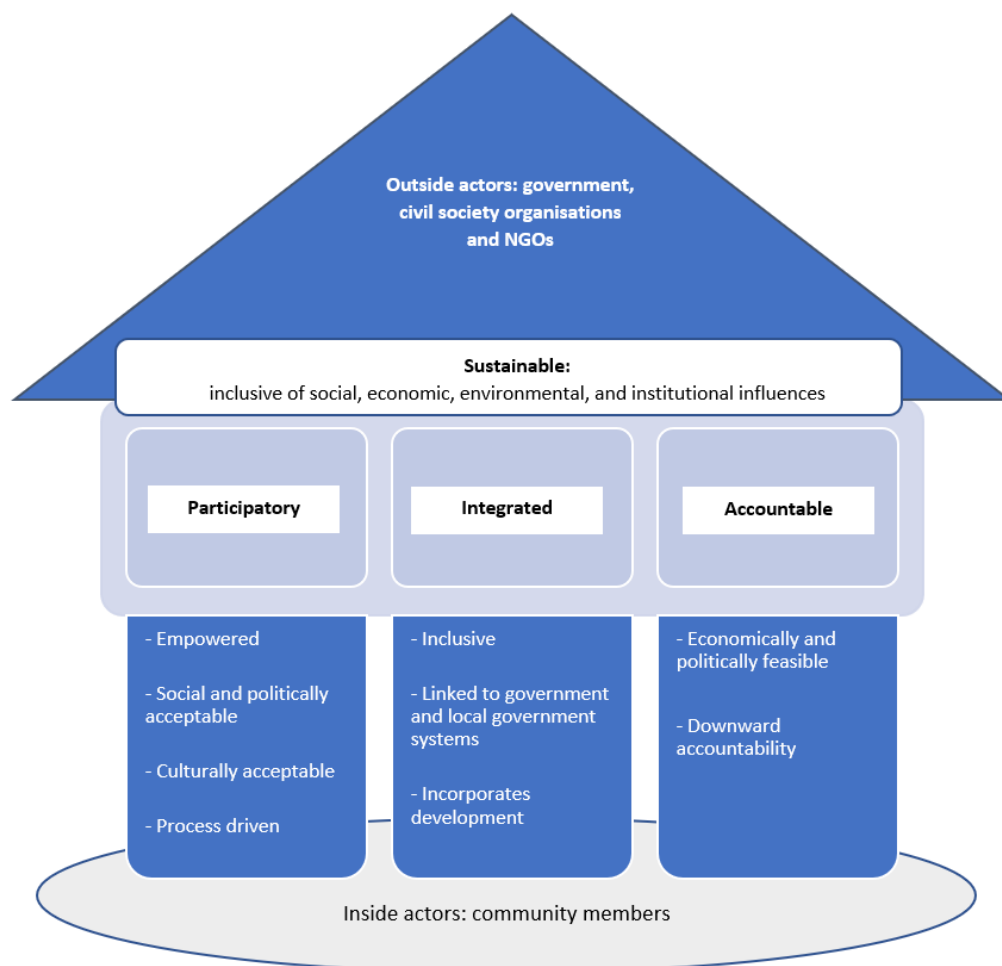
At the same time, just as people have agency so too do the institutions that support or work alongside them. Ashley & Carney (1999) suggest institutions that have pre-existing systems, procedures, prior training, and habits may have a heavy influence on community activities. They warn that 'new' practise can reduce traditional practice. DRR has at times come at the expense of indigenous knowledge where the introduction of new knowledge or external knowledge has been assumed superior to communities' own knowledge and ways of coping (White et al., 2001). This is consistent with research suggesting that education can lead to a reduction in traditional practise and customs (Magni, 2016). Similarly, Campbell (2009) states that in the Pacific, which has seen increasing urbanisation, populations, infrastructure, material assets and tourism, there is concurrent decrease in traditional practises relating to food security (due to monocropping and less resilient crops), settlement security (due to a move from traditional materials and supplies to imported products, relocation to coastal areas and a preference of Western building methods) and changes to cooperation (including a reduction in inter-island linkages and a reduction in market trading).

Accordingly, external agencies must consider their own institutional influence when working alongside communities. This has significant crossover with the discussion above on the use of participatory activities in CBDRR where effective practise involves the coming together of top-down and bottom-up initiatives combining scientific and local knowledge (Gaillard & Mercer, 2014). Sustainability can be gained through purposefully balancing the opportunities and challenges associated the environmental, social, institutional, and economic dimensions of a community (Ashley and Carney, 1999).

2.6 The Three Key Pillars of Effective CBDRR

To make sense of these key areas, participation, accountability, integration, and sustainability are connected in Figure 4 to suggest a framework for effective CBDRR. The framework seeks to illustrate the overlaps between these areas by placing them in three key pillars. Each of those pillars contribute to sustainability. The framework is in the shape of a house to show that each pillar relates to one another and includes all outside and inside actors. The placement of 'community members' at the bottom of the framework should not be mistaken for the assumption that this in some way represents a hierarchal position. This would conflict with the aim of CBDRR where community takes a lead role in DRR. Rather, the position of community should be considered the reason the rest of the house exists, and it is the foundation for that existence.

Figure 4: The pillars of effective community-based disaster risk reduction



Source: Author's own

The three pillars of effective CBDRR, participation, integration and accountability, highlight the complexity of operationalising the theoretical background of the approach. There are clear gaps in research when it comes to consideration of the longevity and effectivity of CBDRR outcomes. Meanwhile, civil society organisations and local governments continue to use CBDRR approaches. In Vanuatu civil society organisations have been using CBDRR activities since the late 1980s (e.g. Ali, 1992). In the last ten years the government has started endorsing and encouraging the model through policy and strategy (Lamberti & Tamtam, 2016). The popularity and long history of CBDRR in Vanuatu provides a useful case study. The following chapters will introduce Vanuatu and the nationwide CBDRR approach the country has adopted. It will explore the effectiveness of the approach through community members' and practitioners' experiences, and finally relate these experiences back to the literature and framework discussed in this chapter.

Chapter 3: Vanuatu as a Case Study

3.1 Introduction

Community Based Disaster Risk Reduction (CBDRR) can be operationalised by setting up local disaster groups or committees. These disaster committees undertake risk assessment, planning, preparedness implementation, and monitoring and evaluation of the preparedness activities (Delica-Willison & Gaillard, 2012). The committee links to intermediate, national and sometimes international levels to prepare for risks and ultimately be better prepared and coordinated during a disaster. This can be particularly useful for assessing, prioritising and distributing resources during an emergency. Vanuatu is a good case study as it has been proactive in setting up disaster committees and encouraging a community-based approach to DRR (Lamberti & Tamtam, 2016). The nation has also had recent disasters, including TC Pam in 2015, Ambae evacuation in 2017 and 2018, and more recently TC Harold in 2020. This chapter will provide relevant background on Vanuatu and the disaster committee approach the country has adopted. First, the geographical location with information on the associated hazards will be introduced. Second, a discussion on the people of Vanuatu will be provided. Third, the community-based disaster committees will be explained with consideration of the links between local, provincial and national structural arrangements. Finally, a discussion on the literature relating to the committees will be summarised with suggestion that there is opportunity to better understand the effectiveness of the approach.

3.2 Location and Landscape

The Republic of Vanuatu is a chain of islands located in the Pacific Ocean. The islands span an area of 650km from approximately 800km West of Fiji, and close to 1750 km East of Australia (Foster & Adams, 2019) as seen in Figure 5. There are around 83 islands with a total land mass of 12,189 km² (The Vanuatu Statistics Office, 2016).

Figure 5: Location of Vanuatu



Source: Nations Online (2019)

The terrain of these islands is diverse, ranging from low plateaus to high mountainous ranges surrounded by coastal terraces and coral reef. Much of the land is covered in dense rainforest, and several of the islands are home to active volcanoes. The volcanic activity, volcanic rocks and coral limestones are due to Vanuatu's location on the 'Pacific Ring of Fire.' This is commonly used for a 25,000-mile-long area where tectonic plates meet. As these plates slide, collide and move under and above one another, they develop deep ocean trenches, and earthquakes and volcanic activity, which can also cause tsunami (National Geographic, 2018).

In addition to volcanic related hazards, Vanuatu has long been accustomed to cyclones and extreme weather events. It is very well known for category five TC Pam in 2015 (Secretariat of the Pacific Community, 2016) and more recently TC Harold in April, 2020 (Gunia, 2020). An estimated 160,000 people were impacted by TC Harold with some areas losing approximately 80-90% of their homes (Gunia, 2020). For a population of approximately 270,000, the devastation was severe (The Vanuatu Statistics Office, 2016). The country is also at risk of climate variability, storm surge, landslides, droughts and flooding. There is awareness that with climate change impacts the nation can expect increases in such extreme weather events (National Disaster Management Office, 2015). The sea level change is particularly noticeable. For example, a settlement in the Torba province on the island of Tegua reported a noticeable impact of sea level rise in the early 1990s. The island's main village, Legua with a fluctuating population of 50 -100 eventually relocated in 2005 due to frequent inundation, land loss and coastal erosion (Warrick, 2011). As well as being open to a diverse and large number of hazards, the country is home to a diverse population with many people residing in geographically remote areas. It is estimated that 65 of the nation's 83 islands are inhabited. Land and the identity of the people of Vanuatu, Ni-Vanuatu, are intrinsically linked. It has been suggested that this link between what in Bislama is called '*ples*' (place) and identity are foundational to Ni-Vanuatu, whereby "land is part of the socio-spatial construction of self where self is bounded to place" (McDonnell, 2013, p. 41). As people and culture are explored in this discussion, it is impossible not to acknowledge the importance and connection of land. The land is Ni-Vanuatu's place to maintain their homes and the gardens that feed them, but it is also a deeply rooted part of who they are as people and therefore a concept that cannot be separated (McDonnell, 2013).

3.3 The People of Vanuatu: Ni-Vanuatu and their Home

Vanuatu was first inhabited by Melanesian people over 4000 years ago. Today, approximately 95% of the population are descendants known as 'Ni-Vanuatu' (Vanuatu Financial Services Commission, 2020). The nation also has Spanish, French, English and more recent Chinese influences. It was 'discovered' in 1606 by the Spanish, and then by the British in 1774. After this, the islands were frequented by French and English missionaries, traders, and 'blackbirders' who kidnapped Ni-Vanuatu slaves to work on whale boats and sugar cane plantations in Queensland, Australia. Formally named as New Hebrides for 74 years, people were ruled under a British-French condominium in the 1800

– 1900s. Vanuatu gained independence on the 30th July 1980. (Vanuatu Financial Services Commission, 2020). The country has over 110 different dialects and three official languages: Bislama (a creole language predominantly developed from English, which was developed during blackbirding), English and French (Tanguay et al., 2013). The impact of missionaries is widespread in Vanuatu, with 99% of the population adhering to some form of religion, and over 80% of Christian faith (The Vanuatu National Statistics Office, 2009). The coat of arms in Vanuatu announces, ‘Long god yumi stanap’, which translated to English advises ‘with god we stand.’ While rich in historical and cultural diversity, as the nation is under recent independence, independent governance and legislation is young and emerging.

During his independence speech in 1980, the nation’s first prime minister Father Walter Lini, who is often referred to as the father of the nation, famously announced: ‘*God and custom must be the sail and steering paddle of our canoe*’ (Lini, 1980). Christianity, *kastom* and *ples* are entwined in the Ni-Vanuatu way of life. In Vanuatu *kastom* derived from the word ‘custom’ relates to not just tradition passed on from ancestral beliefs and customs, but it relates to a fluid and contextual concept which changes over time. Just as *ples* is inseparable from Ni-Vanuatu, so too is *kastom*, whereby *kastom* can provide jurisdiction to relationships, societal status, ceremony, belief systems, rights, and a way of resolving disputes (McDonnell, 2013). These social dimensions and acknowledgement of the value of kin relationships and reciprocity have been applauded as enhancing capacity in resource management and social networks (Granderson, 2017; Pretrou & Connell, 2016). Pretrou & Connell (2016) termed the reciprocal arrangements of sharing food between islands as ‘moral economy.’ In their research, rice was sent from family members in urban Port Vila to family members in the outer island of Paama. Vice versa, family members in Paama sent locally grown yam and *laplap* to their family on Port Vila. The researcher acknowledged this exchange of food made little formal economic sense but intrinsically tied families and locations together (Pretrou & Connell, 2016).

The chief system in Vanuatu groups households or communities together. Customary law continues to be practised with the chief providing direction when communities face issues or unrest (McDonnell, 2013). Granderson (2017) suggests there are threats to traditional knowledge in Vanuatu. First, an increase in Western education, urban migration and a reliance on cash has adverse implications on traditional knowledge and traditional practises. Second, it is suggested that trade-offs are made where some ‘conservative attitudes’ are challenged by taking on new information, lifestyles and practices. There are

implications or trade-offs here for capacities and vulnerabilities. For example, the United Nation's Committee on the Elimination of Discrimination Against Women (2007) suggest that Vanuatu is a patriarchal society with deep seated stereotypes on the roles and responsibilities of men and women in everyday life. A nationwide survey on family violence revealed that 81% of men and 79% of women believe that sometimes women deserve to be beaten. Rates on intimate partner violence are amongst the highest internationally. Three in five women report experiences of physical and/or sexual violence (Vanuatu Women's Centre, 2011). The exchange of money or goods from a groom to a bride's family known as the payment of 'bride price' is fairly common in Vanuatu. After payment 53% of women surveyed believed that the bride became the groom's property. Changes to violence and discrimination against women are advocated for in Vanuatu government's national sustainable development plan 2016-2030 which has various objectives adhering to the United Nation's sustainable development goals. One of the objectives includes: "Prevent and eliminate all forms of violence and discrimination against women, children and vulnerable groups" (The Government of the Republic of Vanuatu, 2016, p.11). The balance between preservation of tradition, local knowledge and beliefs is complex, and it could be suggested the trade-offs create both vulnerabilities and capacities.

The connection to *ples* is also often the key livelihood for Ni-Vanuatu. The largely rural population often relies on subsistence farming, whereby family gardens are an integral part of life. Agriculture and tourism are driving economic growth. The country suffered severely after TC Pam, where the GDP stagnated to 0.2% in 2015. The year previous it had been 2.3% (Sapere Research Group, 2017). The economy is volatile for many reasons, including the impact that disasters such as TC Pam and TC Harold have incurred. Other reasons include political instability, governance challenges and barriers to ease of doing business (Sapere Research Group, 2017). As of March 2020 the country closed its borders to international tourism due to COVID-19 border restrictions (Gunia, 2020). It has been estimated that 60% of the GDP relies on tourism with 42% of employment being tourism related. Meanwhile, the devastating impacts of TC Harold are still being realised while the country focuses on recovery (Gunia, 2020). The combined economic impact remains to be seen.

Vanuatu has a democratic government headed by a president. The president is elected through an electoral college of regional presidents (from each of the six provinces) and members of parliament. An elected prime minister heads the government and appoints a

Council of Ministers who constitute the executive government (Isno, 2015). Political stability and public trust in the government is somewhat limited. Transparency International (2018) indicates Vanuatu's perceived level of public sector corruption has been scored 44 out of 100 (0 =highly corrupt, 100 = very clean), and the country is ranked 64 out of 180 countries listed in the index. This is not particularly surprising as in 2015, 14 ministers including the Deputy Prime Minister were jailed for corruption and bribery (Joshua, 2015). The country is heavily reliant on foreign aid and the many Non-Government Organizations (NGOs) that utilise these funds. Vanuatu currently has no income tax (Vanuatu Customs and Inland Revenue Department, 2020). After a recent review of the government's taxation system with the International Monetary Fund (IMF), Prime Minister Charlot Salwai expressed his support for a tax reform inclusive of income tax. He advised: "We as citizens need to decide what we want our country to be like in the next year; whether we want a Vanuatu that continues to rely on foreign aid, a Vanuatu that continues to get loan or an independent state that can make its own revenue" (Roberts, 2019, p.1). The IMF are supportive of a reform and have advised a reform would "buttress its revenue base, reduce pressure on its debt, and allow it to continue to build buffers against potential natural disasters" (McGarry, 2019, p. 1). Despite the pressure for a reform, parliament remains split on the future of taxation and revenue, and in the meantime the nation continues to rely on international support.

Australia is the largest bi-lateral donor to Vanuatu providing 66.2 million AUD in 2019-2020 (Department of Foreign Affairs and Trade, n.d.). Countries such as Australia, New Zealand and China, who all provide significant aid to the country, do so with recognition that Vanuatu has various social, environmental vulnerabilities including those discussed above. However, Vanuatu is a county that prides itself on wealth associated with heritage. According to the Vanuatu government, Vanuatu's (2016) heritage is founded on the Melanesian principles of respect, harmony, unity and forgiveness. These values form traditional practises that draw the nation together. Through the connected family, community and kinship relationships, Ni-Vanuatu provide security for Ni-Vanuatu people (The Government of the Republic of Vanuatu, 2016). Due to the nation's limited economic resources, there is a strong emphasis on the government fostering relationships with civil society, NGOs, churches and the private sector to assist development (The Government of the Republic of Vanuatu, 2016). It was a consortium of NGOs that first encouraged the Vanuatu government to adopt the nationwide community focused DRR and CCA common

approach across the country (Lamberti & Tamtam, 2016). Since, then the NDMO (2017) has continuously encouraged the NGO sector to develop and build upon the model.

3.4 Community Disaster and Climate Change Committees

Nearly twenty years ago, in 2010 Community Disaster Committees (CDCs) were developed by Vanuatu Red Cross Society, Solomon Islands Red Cross Society and the French Red Cross (The Vanuatu Red Cross Society and Solomon Islands Red Cross, 2011). They were established in various communities in Vanuatu and the Solomon Islands and received endorsement from the NDMOs of both countries. In Vanuatu the approach gained the attention of the NGO sector who then formed a consortium and gained funding for a nationwide approach. The consortium produced a guideline for the approach: the Vanuatu Community Based Disaster Risk Reduction National Handbook for Community Facilitators. In this handbook the CDCs were renamed CDCCCs to incorporate climate change as well as DRR. Practitioners were given a blueprint for developing CDCCCs that link into the local and national government. The approach includes a guideline on inclusive representation. It includes the forming of a committee with 8-10 members that represent 50 to 500 community members. It is gender balanced and includes: community leaders (chief or church leader); government workers (teacher or health worker); community groups (youth, women's groups, men's groups); a member of each village; and a person with disability. This guideline echoes the literature discussed in chapter two where all community members, including those that are vulnerable are given a voice to plan (e.g. Heijmans, 2009; Gaillard & Mercer, 2013; Anderson & Woodrow, 1989; Hewitt, 1983). It provides a sequence of steps to work with the committee to complete a disaster risk assessment. Using participatory tools facilitators can help the committee or community to self-identify vulnerabilities and capacities. The tools include historical profiling (using a timeline tool), seasonal calendars, community mapping and a transect walk. These tools sit in a six-step process which involves: (1) community selection; (2) the establishment of the CDCCC committee; (3) training of the CDCCC committee; (4) a disaster risk assessment; (5) the development of a community action plan and (6) a community response plan (Lamberti & Tamtam, 2016). The approach strives to combine traditional knowledge and customs with information that will assist the community as it changes and develops, and as susceptibility and exposure to hazards changes. It includes instructions on how to complete an initial community assessment form, which can be completed

following a disaster and submitted to the government's emergency management department.

At the national context there are various strategies and policies that support the CDCCCs. The NDMO strategic plan (2010 – 2020) and the Vanuatu Climate Change and Disaster Risk Reduction Policy (2016-2030) have the most direct relevance, and other areas have crosscutting themes and implications. This includes the Vanuatu's national strategy named The Vanuatu People's Plan (2016-2030) and regionally the Decentralization Act (2006) for ramifications on resourcing in the provinces and communities. The combining of DRR and CCA is part of Vanuatu's national strategy. The Vanuatu People's Plan (2016) has 15 national sustainable development goals including a goal specifying that Vanuatu be a "strong and resilient nation in the face of climate change and disaster risks posed by natural and man-made hazards" (pp.14). Within this goal are several activities including institutionalising CCA and DRR risk governance and building capacity and awareness, and promoting strengthened resilience to manmade, natural and climate related disasters. Ways this can be achieved can be seen in the Vanuatu Climate Change and DRR policy 2016-2030 (Government of Vanuatu (2015). The principals of this policy include accountability, sustainability, equity, community focus, collaboration and innovation. The community focus principal specifies "empowering communities at the local level through a bottom-up approach, drawing on local skills, values and traditional knowledge, and enhancing decentralization in planning, programmes and projects" (p.2). The NDMO strategic plan 2016-2020 (2016) illustrates how this has been operationalised through the CDCCC approach. It indorses the CDCCC model and requests that NGOs prioritise grant funding towards continuing to extend the reach and maintenance of CDCCCs (NDMO, 2017). Per Table 2 CDCCCs are in three out of the four strategic objectives.

Table 2: The NDMO strategic plan mission statement and objectives

NDMO MISSION STATEMENT		
Ensuring that there are resilient communities throughout Vanuatu by integrating the coordination of Disaster Risk Management and Climate Change Adaptation into sectorial plans, policies and budgets		
	NDMO objectives	Examples of CDCCC related activities listed in the strategy
1	Strengthen the NDMO governance framework through reporting/M&E, planning, budgeting, resourcing, legislation, policy and procedures and by advocacy for DRM & CC mainstreaming.	CDCCC training in data collection.
2	Improve Disaster Risk Management (DRM) coordination arrangements with all stakeholders at regional, national, provincial and community levels.	Develop clear roles and responsibilities of CDCCCs, TOR to include preparedness, response and recovery processes. Establish, capacity build, resource and support CDCCCS. CDCCCs registered with Provincial Government & NDMO with regular quarterly updating to NDMO, Vila Office. Undertake training of CDCCCs by the PDCs, NDMO, VHT and NGOS.
3	Enhance DRM operations preparedness, response and recovery for a safer, secure & resilient Vanuatu.	Conduct trainings for CDCCCs which incorporates traditional resilience & coping strategies.
4	Facilitate harmonization and mainstreaming to promote coherence between Disaster Risk Management including Climate Change approaches, systems, programmes and stakeholders involved in development (preparedness, response & recovery).	

Source: NDMO Strategic Plan (2016 -2020).

Note: This table was developed by noting activities mentioning CDCCCs associated with the NDMO mission statement and objectives.

CDCCCs are not mentioned under objective four, however as this focuses on promoting cohesion between DRR and CCA it can be assumed there are obvious synergies. While much of the work with CDCCCs is done by NGOs, the Decentralization Act (2006) gives jurisdiction to local governments to work towards greater involvement in this and various other sectors. Decentralisation gives decision making and resourcing capacity to various local actors including chiefs at the village level, area councils, provincial councils and a provincial technical advisory group made up of key government sector representatives. The Vanuatu Disaster Management Structure in figure 1.2 aligns to these arrangements.

Consistently the Vanuatu Climate Change and Disaster Risk Reduction Policy (2016-2030) advises that a priority for the National Advisory Board is to “enable continuous political reform, decentralization and human and institutional strengthening” (p. 32). The policy advises that climate change and DRR are incorporated into provincial and area council plans and that DRR activities need to be implemented in line with decentralisation. Therefore, the CDCCCs align to the wider national emergency management structure by linking into the area council, which links to the provincial council, which finally links to the NDMO (figure 1). Through national and international strategy documents, CBDRR and programmes like the CDCCC approach are clearly aligned and endorsed.

3.5 The Effectiveness of CDCCCs

There is mixed reporting on the effectiveness of the disaster committee approach. There has been limited academic literature on the specific model and its benefits and challenges. Most analyses of the approach are done through evaluations required by the aid funding bodies that support the external agencies to undertake the programmes. Independent studies on the subject matter have had contradicting findings. After Vanuatu was devastated by the category 5 TC Pam in March 2015, there was recognition of the benefits from having developed CDCCCs. Lessons learnt from TC Pam recognised that in comparison to communities that did not have committees the communities with established committees experienced: (1) more effective assessments, (2) better communication between the community and the provincial and national disaster offices, (3) a timelier response, and (4) less conflict in the community during aid distribution (Secretariat of the Pacific Community, 2016). Consistent with this finding, a report done by Care International suggested that communities that had set up CDCCCs suffered less TC Pam impact and damage than communities with no CDCCC (Webb, 2017). At the same time research emphasised that external aid agencies dismissed some of the actions carried out by CDCCCs during and after TC Pam (Le Dé et al., 2018). The authors suggested that this duplicated response efforts, wasted resources, and ultimately undermined the bottom-up approach and localised empowerment that that the CDCCCs had been set up to achieve. While these studies give some clues to the effectiveness of the approach, it is worth noting that both took place in areas where CDCCCs were linked and currently working with NGOs. There is limited understanding of what happens after the NGOs exit communities. This may in part explain why after ten years of CDC/CDCCC programming the NDMO (2017) advises that CDCCCs cover fewer than 5% of the population. Of those

listed it is unclear how and if they are functioning or when they last had an update. Ali (1992) studied a disaster guideline carried out by the Presbyterian Church, which involved creating a disaster committee and plan. This suggested that rather than fostering self-reliance the approach created a dependency on external support and funding. Further, it advised the plan was based on 'first world' strategy and was not contextualised to indigenous cultures, which resulted in the plan becoming symbolic rather than an operational tool (Ali, 1992). More recent research in Vanuatu suggests that community CCA activities are challenged by sustainability issues caused by finance, maintenance, management expertise, social dynamics, power relations and changing traditional normalities (Buggy & McNamara, 2016).

The CDCCC approach has clear alignment with the theoretical approach to CBDRR which was discussed in chapter two. The approach is being continuously endorsed in Vanuatu with the NDMO encouraging NGOs to continue developing and maintaining the disaster committees (NDMO, 2017). Vanuatu is a good case study of how a nation has taken on theory and across stakeholders attempted to operationalise and formalise a CBDRR approach. This provides opportunity to consider the effectiveness and sustainability of the approach and contribute to the wider body of knowledge on operationalising the theory of effective and sustainable CBDRR. The following chapters will look at how community members and practitioners view the successes and challenges of CDCCCs. It will document the positive and negative outcomes of the CBDRR activities and make recommendations about how policy and strategy can be influential. It will relate these findings to the theory from which these CDCCCs specifically focus on, namely, the key areas of participation: integration, accountability and sustainability.

Chapter 4: Method

4.1 Introduction

Disaster committees formed at the local level commonly undertake a process including risk assessment, planning, preparedness implementation, and monitoring and evaluation of the preparedness activities (Delica-Willison & Gaillard, 2012). In research on Community Based Disaster Risk Reduction (CBDRR) common areas that are recurrent include participation, integration, accountability and sustainability. There are gaps in the literature when it comes to consideration of the longevity and effectiveness of CBDRR outcomes. This chapter will explain the methodology behind using Vanuatu's Community Disaster and Climate Change Committees (CDCCCs) as a way of exploring these gaps. This chapter will start by explaining my relationship with Vanuatu, which is important to note as an outsider undertaking research in a foreign country. It will look at how I worked alongside Ni-Vanuatu colleagues to design, undertake and analyse data. It will explain two key parts to the study. First, it will describe focus group discussions (FGDs) with CDCCC members and community members, and second, key informant interviews with local Non-Government Organisation (NGO) workers and government workers who have responsibilities for developing and working with CDCCCs. Finally, it will explain the ethical considerations of the study and the approval process undertaken.

4.2 My Relationship with Vanuatu

For the duration of this studies' data collection, which spanned over two years, I resided and worked in Vanuatu in Disaster Risk Reduction advisory roles. For most of this time I was funded by Volunteer Service Abroad to work at World Vision Vanuatu (WVV). The Disaster Risk Reduction (DRR) and Community Disaster and Climate Change Committee (CDCCC) working space in Vanuatu is relatively small and collaborative. As well as having a relationship with WVV where I worked, I also had relationships with the various other civil society organisations working with CDCCCs. This research was made possible by drawing upon a WVV project funded by the Australian Government's Department of Foreign Affairs and Trade (DFAT) to explore the effectiveness of CDCCCs in Vanuatu. WVV partnered with another NGO to undertake this research and accordingly that NGO received some of this funding.

I led this project on behalf of WVV and they provided me with endorsement to use part of it for this thesis. This positioning had several consequences on the thesis processes and outcome. There are pros and cons to having this position in Vanuatu. The advantages include having funding and resources to undertake community-based field work. I also had pre-existing trust with many of the participants either through my working relationships or through the organisation's previous work in communities. Challenges include concerns that participants that had previously received support from NGOs may participate in the research in a way in which would appease those organisations, and that my presence as a foreigner from an NGO may raise expectations during community visits. As the DFAT grant resulted in a research report on CDCCC sustainability and effectiveness, I was aware it was necessary to differentiate this thesis from that report. The thesis is therefore an amalgamation of some of the data collected during the DFAT project and some data collected independently. The DFAT project includes community-based focus group discussions (FGDs) with community members where I trained and coordinated with local NGO staff who assisted in the facilitation. Independently, I also conducted semi-structured interviews with local practitioners who were involved in developing CDCCCs. I used a co-design workshop, which I led, as part of the formation of both the report and this thesis.

4.3 Co-design Background

As part of the DFAT grant, I organised and facilitated a three-day co-design workshop between agencies involved with supporting CDCCCs in Vanuatu. This workshop aimed to formulate the design for the DFAT research project. It also provided direction to this thesis. The workshop included eight participants from three NGOs (two of whom were recipients of the DFAT grant funding) in Port Vila in November 2017. The local practitioners from these agencies were all involved in delivering DRR activities and the development and maintenance of CDCCCs at the community level. The NGOs were interested in reviewing the sustainability of the approach and exploring further the challenges and opportunities that could guide their future work. The DFAT research project included quantitative and qualitative data collection. The thesis only used a portion of the qualitative data specific to thesis objectives.

The participants involved in the workshop designed the research purposes and aims and hypotheses for the DFAT research project. The agenda of this workshop can be seen in Figure 6.

Figure 6: Co-design workshop agenda

<p>Date: 15th November 2017</p> <p>Attendees: [REDACTED]</p> <p>Agenda</p> <ol style="list-style-type: none">1) Develop research purpose (included exploration of: what we want to know? Why it is important? Who is the target audience? What are the consequences of research?)2) Develop aims and hypotheses3) Determine research factors (variables)4) Determine target participants <hr/>
<p>Date: 16th November 2017</p> <p>Attendees: [REDACTED]</p> <p>Agenda</p> <ol style="list-style-type: none">1) Recap of research and plans2) Revisit and amendment to research purpose, aims, hypothesis and objectives3) Draft of survey questions in alignment with each objective <hr/>
<p>Date: 20th November 2017</p> <p>Attendees: [REDACTED]</p> <p>Agenda</p> <ol style="list-style-type: none">1) Next steps for research methodology2) Time frames, and roles and responsibilities for research implementation3) Checklist for project activities 4) Other:<ul style="list-style-type: none">- List of staff leave-Email contact list to be updated with all staff

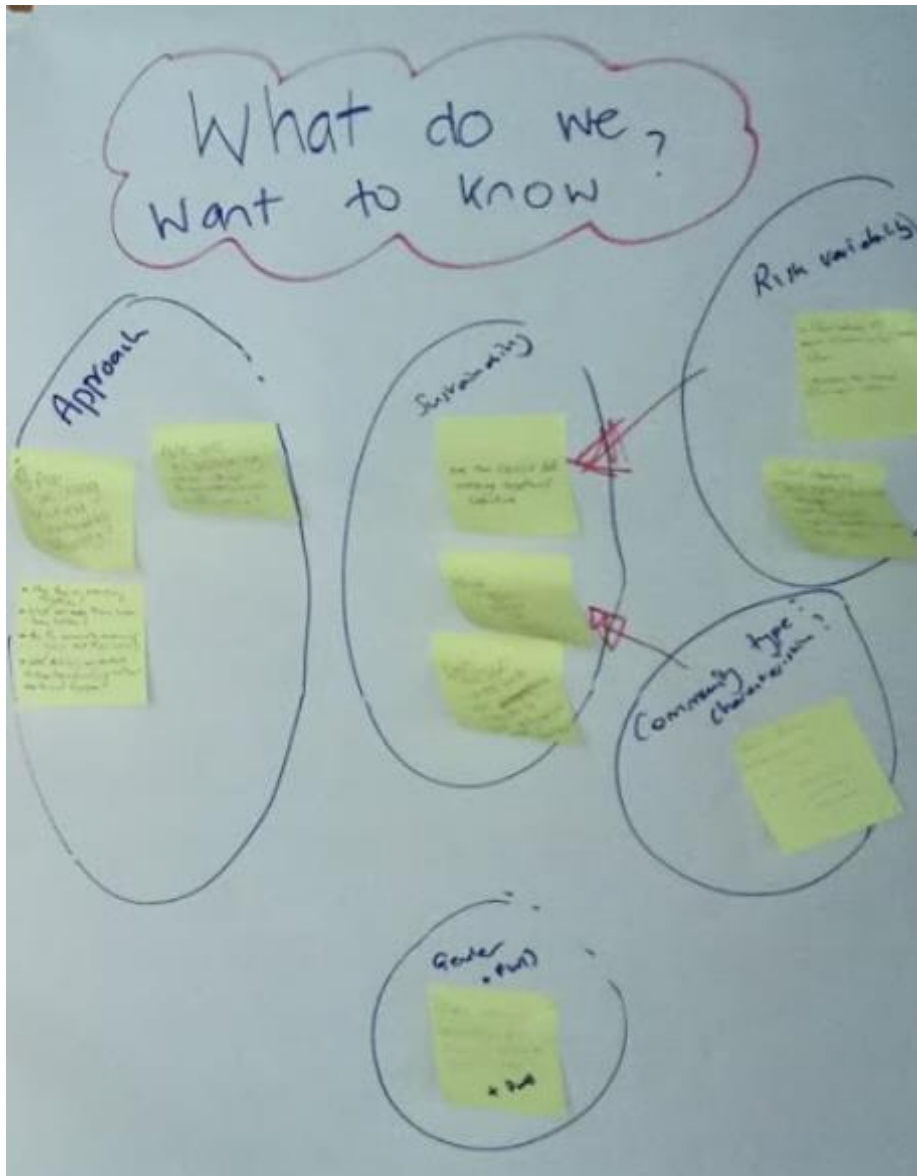
Note. Figure 6 is the co-design workshop agenda. The names of the attendees have been removed to protect their privacy. (Jackie Bubb, November 2017).

The items in the agenda were undertaken through participant involvement in the workshop. Photos and details of this are below. I was able to use participatory methods in the design of the thesis objectives by involving the practitioners involved in CDCCCs. Accordingly, the practitioners involved in the design could have been considered participants themselves. Participatory methodologies allow for a shared power relationship between the researcher and research participants (Chambers, 1994). The fundamental premise of participatory research is that it provides an opportunity for local

people to actively share and engage in the research process (Reason & Bradbury, 2008). I used local practitioners in the design of the study (as will be explained below) and practitioners were also included as participants. This is in line with research that supports the gathering of knowledge and views of participants while also allowing participants to reflect upon their priorities on issues that directly affect them (Aldridge, 2015). Thus, participation can lead individuals and communities not only to find solutions (learnings and opportunities) for themselves but also their wider community (Higginbottom & Liamputtong, 2015).

The workshop assisted to formulate the research questions, study design, and to explore potential locations to undertake the study, and to undertake logistical planning. Stake's (1995) research design suggests researchers should have two to three issue questions. Although the study structure remains flexible, the questions assist in structuring the observations. Therefore, key themes from the workshop helped in developing the research question and objectives.

Figure 7: Co-design workshop notes: what do we want to know?



Note: Co-design workshop notes. Sticky notes were used by attendees to answer the question: What do we want to know. These notes were then categorised into key themes. (Jackie Bubb, November 2017).

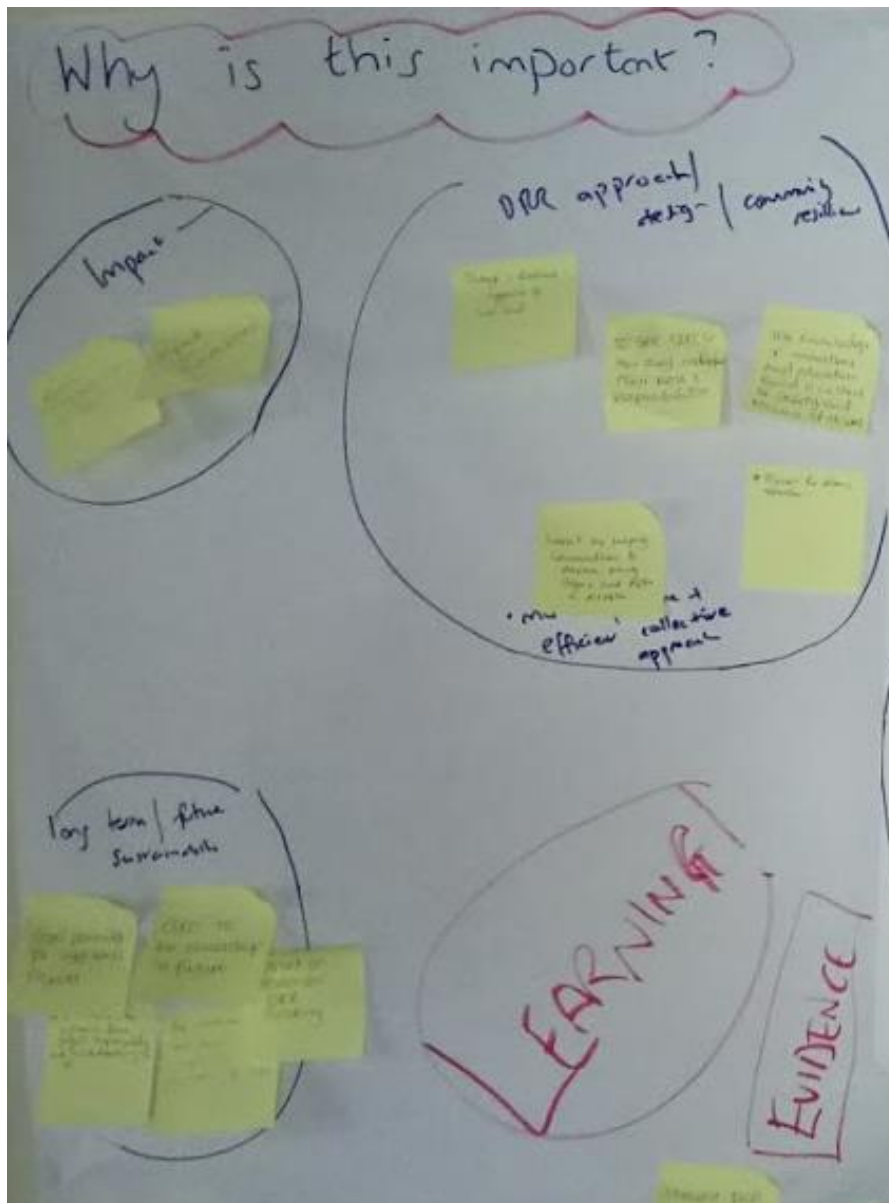
As can be seen in Figure 7, the workshop attendees suggested the need to document the operationalisation of the approach, the effectiveness of the committees (for example attendees wanted to know about the 'impact' of the approach) and the sustainability of the approach. Accordingly, the research question for this study is:

To what extent are Vanuatu's CDCCs sustainably contributing towards effective DRR and CCA?

4.4 Objectives of the Study

I took learnings from the co-design workshop to formulate three objectives for this thesis. Attendees suggested that by reviewing the effectiveness and sustainability of the approach it would provide an understanding of the 'impact' CDCCCs were having on 'community resilience'.

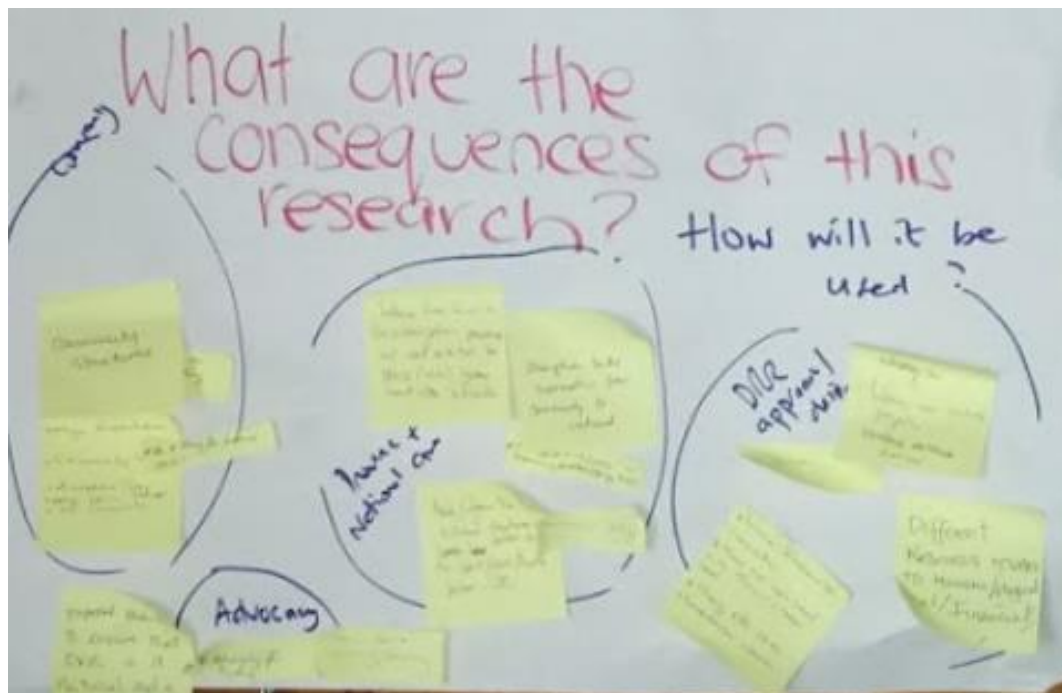
Figure 8: Workshop notes: why is this important?



Note: Co-design workshop notes. Sticky notes were used by attendees to answer the question: Why is this important? These notes were then categorised into key themes. (Jackie Bubb, November 2017).

The first two objectives of this thesis were formed from key themes identified in Figure 8. The objectives are: (1) To document the role of CDCCCs in DRR and CCA; (2) To explore the challenges and opportunities towards developing and maintaining effective and sustainable CDCCCs for DRR and CCA. The workshop also explored the potential consequences of the study. It was recognised that the research could have implications for the endorsement of the model at the national level, and that the study findings could be used to advocate with local and national government.

Figure 9: Workshop notes: what are the consequences of this research?



Note: Co-design workshop notes. Sticky notes were used by attendees to answer the question: Why is this important? These notes were then categorised into key themes. (Jackie Bubb, November 2017).

Figure 9 guided the third research question relating to the implications of CBDRR policy: (3) To identify the implications for policies geared towards effective CBDRR.

4.5 Study Design

The co-design workshop assisted in generating a study design. I noticed the wealth of knowledge amongst the practitioners and accordingly for this thesis decided to incorporate two key parts to the study. First, the community level research and second, research associated specifically with the practitioners. The workshop attendees discussed how to undertake the study within the communities. They suggested which communities

were to be invited to take part (which was based on areas the NGOs were working or had previously worked with CDCCCs). From this community-based data collection, I used a portion of the qualitative data collection for this thesis. I selected a qualitative case-study approach undertaken using a design approach described by Stake (1995). This was deemed appropriate as qualitative case studies can draw upon a purposely selected group of participants on a specific topic (Liamputtong, 2012). An interpretative/constructive paradigm was used as I sought to interpret information through gaining an understanding of the participant's experience with CDCCCs and CBDRR activities, whilst also recognising that I may be influenced by my prior experience and background in the construction of interpreting these views.

Communities invited to take part included those that had worked with the two NGOs to form CDCCCs. There are pros and cons to this. As the NGOs had existing relationships with the community, there was awareness that access to undertake the study would be simple, and that the practitioners and community members would have opportunity to explore the impacts of the CBDRR programming together. However, it also meant that community members may try and appease the NGOs that had provided support to them. In addition, the NGOs' visit to the community could raise expectations about future support. The practitioners agreed that they would advise community members that positive and constructive feedback and opinions would be valued, and this was an opportunity to impact future DRR activities. In order to manage expectations practitioners were open and transparent about these outcomes and limitations on the NGOs to provide support. While the DFAT funding was specifically for community-level research during these discussions, I recognised there was a wealth of information amongst the practitioners who were implementing the approach as well as the community members. Accordingly, I decided to incorporate a two-part study involving CBDRR practitioners and community members. This means the community data collection was shared with the NGOs and DFAT, and the second section of the thesis involving CBDRR practitioners was specific to this thesis. The two sections of the study included:

1. Focus group data collection participants that were CDCCC members or community members residing in areas where CDCCCs existed.
2. Key informant interview data collection with practitioners that were involved in CDCCC development and ongoing CDCCC related work.

These sections were loosely based on lessons learnt from the co-design workshop and previous researchers' experience of focus groups and key informant interviews (Ross, 2012; Chambers, 1994; Kumar, 2002).

4.6 Part A – Community Focus Groups

4.6.1 *Community Focus Groups Background*

Focus groups were used by bringing participants together to express different perspectives on a specific topic (Ross, 2012). FGDs are considered appropriate in this context, as not only are they useful at giving participants a level of comfort and confidence in group speaking (Ross, 2012), but they also allow community members to learn from each other and ultimately better guide the outcome of the data collection (Chambers, 1994). In addition, the communities are well versed in working in focus groups, as the workshop attendees could explain the CBDRR work that had been done previously was all accomplished through FGDs and activities.

The study used focus groups with participatory activities to explore the effectiveness and sustainability of CDCCCs. This approach was considered relevant as it seeks to understand the views of the participants through their experience and knowledge on the topic, rather than as prescribed by the researcher. In essence, a participatory approach aims to emphasise the views and priorities of local people (Reason & Bradbury, 2008). This is achieved through activities that are designed to foster discussion among local people and allow them ultimate control over the production of knowledge (Chambers, 1994; Saxena, 1998). To describe this discussion format, the term '*storian*' was used.

In Vanuatu '*storian*' refers to a chat or translated directly means to tell a story (Crowley, 1995). It has been used in previous research in Vanuatu to explain semi-structured interviews and community discussions (Warrick, 2011). During the codesign workshop NGO representatives also advised on challenges with literacy and a variation in spoken languages. To overcome this, a participatory approach was used where the community was encouraged to put forward a scribe or in some cases the NGO representative provided this support. At the time of the participatory activities, the concept of '*storian*' was fostered with community members being encouraged to *storian* – some chatted informally in Bislama, other community members chose to speak in their own language

whilst others translated for the scribe. Less frequently some spoke in English. Accordingly, written work was usually recorded in a mixture of Bislama and English.

Participatory tools were adapted from Kumar (2002) and used in focus groups of CDCCC members to record thoughts and beliefs on the sustainability of their committees. Such tools have been found to be useful in other Pacific Islands. For example, Kelman et al. (2009) worked with communities in Papua New Guinea on a ‘guided discovery’ to generate DRR and CCA understanding using timelines and mapping exercises. Such research used community members’ previous experience and knowledge. In accordance with this and the objectives of the study, participatory tools were used. The tools chosen included:

1. A timeline to record the history of the CDCCC from inception to the current day.
2. Social mapping by reviewing the geographical location and the CDCCCs reach across this location and over time.
3. A Strengths, Needs, Opportunities and Challenges analysis (SNOC) of the committees.

Table 3 provides some examples of how I expected these tools would overlap and generate information that would assist in answering the research question. It is recognised there are multiple ways these tools will generate information. Each tool was expected to generate information on the objectives.

Table 3: Selected participatory tools

Participatory Tool	Background	Purpose	Relationship to research objectives
Timeline	Community members identified the history of the CDCCC and communities experience with disasters, from inception to the current day – inclusive of preparedness, response and recovery activities.	To view level of activity and changes to the CDCCC over time. To look at CBDRR activity driven by external agencies versus the activity and changes that occurred in the community organically.	Sustainability: to look at how the committee changes over time, and to consider how activity changes when the external agency is active versus when they are inactive. Documentation of CBDRR: to consider if DRR and response activity was from the community in general, driven by the committee or related to external agency activity.

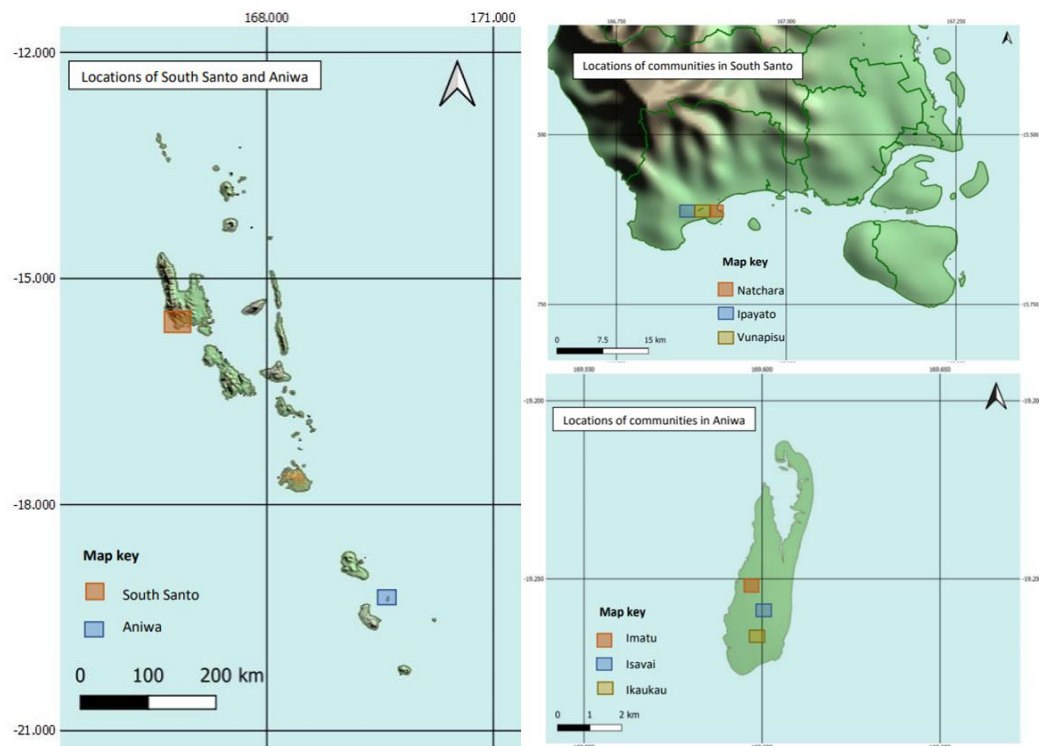
Participatory Tool	Background	Purpose	Relationship to research objectives
Social mapping	It was intended that community maps developed during previous CBDRR activities would be copied and re-used. Different coloured dots or stickers could be used to indicate the members at inception and the members active at the time of the study.	To view changes to membership over time. For example, to see if members changed location, were replaced if they left the committee, or if they remained active.	Sustainability: to look at if committee membership remains active over time. Effectiveness: to see if there are location differences: Clusters of membership within the community versus spread ('representation') across the geographical location.
Strengths Needs Opportunities Challenges (SNOC) analysis	Community members identified strengths, needs, opportunities and challenges to the CDCCC approach.	To hear directly from the community their thoughts and viewpoints on the CDCCC and CBDRR activities.	Effectiveness: from the communities and CDCCC member's viewpoints.

At the time of the study, a change had to be made to the mapping exercise. It was intended that maps made by the community when they were developing their CDCCC would be ideal to use, because the community would be familiar with them having made them themselves. It was discovered that the copies of the community maps were unusable. Photos of the maps previously developed were expanded; however, they were difficult to use due to their quality and appeared blurred or incomprehensible. This activity was then adjusted by using copies of Google Maps, but it was felt that this was less relevant to the communities. The level of comprehension of community members was variable and many appeared not to understand the map. Participation should allow for a transfer in power whereby community members have a voice in DRR practise and policy (Gaillard et al., 2019). The adoption of participatory research by large institutes has led to questioning if mainstreaming perpetuates knowledge as opposed to empowering marginalised groups (Gaventa & Cornwall, 2008). Here the use of a Google map which most community members appeared to find confusing may have inadvertently given power to the few community members that could understand the map. This may have created an unequal level of power amongst the participants that could not comprehend the map and the researchers and few community members that could understand. This was an unfortunate consequence, because the study had sought to use participatory tools to reduce unequal power relations, not create them.

4.6.2 Participant Inclusion and Location

It has been suggested that participatory approaches to CBDRR are common in development activities but less frequently used in research methodologies (Mercer, 2008). In this study participatory research is used to study the outcomes of the participatory activities. A case study approach included participants residing in South Santo, Sanma and in Aniwa, Tafea (Figure 10).

Figure 10: Maps of the locations of communities selected for the focus groups



Note: Figure 10 - maps of the locations of communities selected for the focus groups is the author's own. This map was created using QGIS (<https://qgis.org>).

These locations were invited to participate as they were areas where the NGOs involved in the workshop had done previous CBDRR projects. At the workshop it was noted it would have been inappropriate to select locations where other agencies had assisted in setting up the CDCCCs. This could have been perceived as one NGO scrutinising the work of another NGO. A benefit to working with these communities was easy access as the NGOs already had existing relationships and community contacts. However, one of the limitations of such an approach could have been reproducing power relationships at intra-community level. For example, there is an unequal power dynamic between 'big men' (i.e., chiefs and other community leaders) and the general community (Mercer, 2008, p.

177). In this study it was noted that the community members included may be impacted by this power imbalance. For example, they may have felt they wanted to appease an NGO who had provided previous support, or from within their community the voice of the 'big men' may have superseded that of the general community.

The CDCCC approach promotes that the CBDRR activities and committees are community owned and managed by community members. The research was particularly interested in understanding how CDCCCs functioned with and without the presence and support of external agencies. It was assumed that the communities involved in this research would allow the researcher to compare CDCCC effectivity and sustainability in communities that were having ongoing support (Aniwa, Tafea) versus those where the supporting external agency had left and was no longer supporting with CBDRR activities (South Santo, Sanma).

4.6.3 Data Collection

Participants were recruited through invitations given to key focal points in each community. First, the chief or CDCCC chairperson was contacted. The chief is considered the "key" to the community, being responsible for maintaining harmony and providing leadership (Kernot & Sakita, 2008). In collaboration with the chief or chairperson, community members were then invited to take part in the study. This is the most appropriate and inclusive way of working in Vanuatu, since many communities do not have access to communication devices and there are varying degrees of literacy (Penfold, 2014). Oral communication was deemed the most appropriate to engage. Community members were invited to join the FGDs through the key focal point. In the days leading up to the data collection, the key focal point was asked to remind local community members – reinforcing the messages already provided.

Prior to the research taking place, it was not known how many CDCCC members continued to reside in the community. Therefore, the study remained flexible around the actual number of participants who were CDCCC members. Per Table 4 there were 63 community members from the six villages included. Representation from men and women was captured with 30 males and 33 females recorded.

Table 4: Focus groups: location and participants

Area	FGD location	External CBDRR support	Male participants	Female participants	Total participants
Aniwa Tafea	Ikaukau	Received external agency support to develop and maintain CDCCCs from 2012. Support remains.	4	7	11
	Imatu		3	6	9
	Isavai		7	3	10
South Santo Sanma	Natchara	Received external agency support to develop and maintain CDCCCs (formally Community Disaster Committees) from 2010 to 2014.	4	6	10
	Ipayato		5	4	9
	Vinapusu		7	7	14
Total participants			30	33	63

During the FGDs I was accompanied by Ni-Vanuatu staff members from the two NGOs. The staff members had local knowledge and understanding of the communities. The staff and I spent one week in each province with the participating communities to gather data. During this time, the staff and I stayed within the respective communities. There were existing relationships between the NGOs and the participants. While this was useful as it provided a platform of trust, there was also awareness that the participants may feel differently about being honest on their appraisals of work and resources that the NGOs had provided. Also, there was the risk that that the community may expect outcomes or further resources due to NGOs presence. Accordingly, each FGD began with a clear explanation of the research, its purpose and utilisation of the information. This session was also the opportunity for participants to ask any question about the research and related expectations.

The focus group discussions were facilitated jointly by the NGOs' staff and me. Where necessary the Ni-Vanuatu NGO staff could assist with language or cultural nuances. While most of the community members spoke Bislama or English on occasions some community members chatted in their local dialect and then one community member would translate the discussion. The groups themselves were undertaken in approximately 2-3 hours from within common areas of the community. These locations included the chief meeting house (*chief's nakamal*), an empty school classroom, and sitting alongside the chief's nakamal on woven mats. The location was chosen through collaboration with either the

community chief or the CDCCC chairperson. As the chief is integral to maintaining community harmony and providing leadership (Kernot & Sakita, 2008), this respected the order inside the community. The NGO staff and I encouraged the chief/CDCCC chairperson to take an inclusive approach to those that attended – including inviting women, young people, and people with disability. At the time of the data collection in the Aniwa communities, a tropical low passed through. Due to the bad weather one focus group had to relocate part way through the data collection to an unused classroom to shelter from the wind and rain. While this created some challenges logistically, it also allowed for observations on the community's actions during the time in which hazard alerts were being issued. At the time of the FGDs, the community themselves had several discussions around revitalising their CDCCC or in some cases CBDRR related activities. This is in line with Participatory Action Research (PAR) methodology. The basic premise of PAR is that participants are capable of analysing and reflecting on their own realities, and that outsiders act as facilitators or conveners (Kumar, 2002). It was encouraging to see participants benefit from the research by having discussion on DRR plans.

4.7 Part B – Key Informant Interviews

4.7 Part B – Key Informant Interviews Background

During the community-based data collection and co-design workshop, I witnessed the wealth of experience and knowledge of the practitioners. I decided it was also important to have their viewpoints. The local NGO practitioners are responsible for working with the community members to form CDCCCs and for linking them to local and national government as per the CDCCC guidelines. Semi-structured interviews were selected as a way of capturing their viewpoints on the effectiveness of the CDCCCs and the CDCCC approach. The advantage of semi-structured interviews is that the researcher can control the process and also follow up new leads and ideas as they are discussed (Bernard, 1988). As is common in semi-structured interviews, I prepared some broad questions prior to the interviews in order to provide some structure (Adams, 2015). The questions guided the discussion through overlapping topics related to the research questions. At the time of the interviews, the participant and I were free to discuss points of interest and/or add additional questions. I considered that this was appropriate for the Vanuatu context where storytelling known as '*storian*' is a common form of communication (Warrick, 2009; Crowley, 1995). Such interviews allow for two-way communication in which the

researcher and participants can discuss a topic collaboratively (Bernard, 1988). *Storian* has previously been commended as an appropriate research method in Vanuatu where participants and researchers can informally discuss issues and realities and collectively learn and explores ideas collaboratively (Warrick, 2009).

As part of '*storian*' I used some of the preliminary findings of the community focus groups to form the key informant questions. One of the questions included: *When we did FGDs with the communities one thing we found was that the CDCCCs were more likely to mention being active during response than DRR or CC. Why do you think this is?* So, while thematic analysis was used across the data, some of the themes would have been influenced by the FGDs where preliminary findings were discussed with the key informants. It was assumed this would provide opportunity to explore more fully some of the key data obtained from the community. It also fostered a discussion with the participant where the participant was able to reflectively critique the CDCCC model and work associated with it. It is assumed that such reflection could impact future work where practitioners may adjust their way of working based on learnings and understanding.

4.7.1 Participant Inclusion and Data Collection

I undertook five semi-structured interviews with key informants from external agencies that were involved with CDCCCs. These practitioners had between two to seven years of experience in working on CBDRR projects, and they all had experience working with CDCCCs. Three males and two females were included. At the time of the interviews four key informants were working for civil society organisations and one informant was a local government worker who held the position of Provincial Disaster Management Officer (PDO). Table 5 summarises the demographics of these participants.

Table 5: Semi-structured interview participant demographics

Participant	Gender	Age	Work experience	Years of experience
1	Female	36	NGO worker in three provinces	7 years
2	Male	37	Provincial Disaster Officer	5 years
3	Male	35	NGO worker in one province	7 years
4	Female	43	NGO worker in one province	2-3 years
5	Male	31	NGO worker in two provinces Provincial Disaster Officer	6-7 years

The Vanuatu agencies involved in CDCCCs are well known to each other. The DRR and CDCCC working space in Vanuatu is relatively small and collaborative. It is common for a

practitioner to have worked for several agencies. Accordingly, the informants had been involved in CBDRR in their current roles, but many also had experience working with CDCCCs in other agencies from previous positions. For example, one of the NGO informants had previously worked as a Provincial Disaster Officer and so was able to give insights from both perspectives.

I recruited participants through the network of the civil society organisations that I had connected with during my time in Vanuatu. Due to the small working DRR and CCA space in Vanuatu, I personally knew each of the participants and the organisations where they worked. While this has benefits, including that the practitioners knew and trusted me, it was also important to me that I protected the anonymity of these participants. I wanted them to be able to share their honest opinions and did not want them to feel in any way that this would have an impact of their roles or alliances to their various agencies. I discussed this with the participants and made sure all participants were provided an information sheet during the time they were invited to take part. They were reminded of the information sheet in the days leading up to the agreed meeting, and practitioners and I discussed the research prior to the interview. At the time of the interview, as I was working for WVV, I advised the participants that this study was possible because of my work but was independent of my role with the NGO. I wanted to assure the participants that the study was in no way a comparison between NGOs or an appraisal of WVV, their organisation's work or their work personally – rather this was an appraisal of the approach itself. This was important to emphasise as I did not want the participants to feel as if their work or organisation was being scrutinised. I also advised them that they would be anonymous in the study. Participatory research requires trust and a credible relationship between the researcher and participants (Higginbottom & Liamputtong, 2015), and I was aware that my pre-existing relationship put me in an advantageous situation. I purposely did not include informants from the NGOs that assisted with the co-design workshop and therefore community FGDs. I was aware these practitioners may have changed their viewpoints on CDCCCs because of their involvement with the FGD data, and I was willing to hear from those who had not had such exposure.

The semi-structured interviews took place in common areas within Luganville, Sanma. The specific locations were agreed upon between the participant and me. These included: participants' workplaces, the chief's nakamal and a public pergola. Although all interviews were undertaken in the province of Sanma, the participants themselves resided in

different areas of Vanuatu and their combined experience of working with CDCCCs included five of the six provinces in Vanuatu. I had anticipated the semi-structured interviews would be undertaken in English. However, as the participants all knew me personally and knew that I understood Bislama, they frequently switched between Bislama and English. I made a recording of the interviews and took notes. The recordings and notes were transcribed together, and I translated any Bislama into English. One of the participants who was particularly interested in the research outcomes requested to see the transcription to check the intent of the discussion was captured. This participant then made and adjusted some of the transcription. I had assumed the interviews would take approximately an hour to complete. On average the interviews took around two hours. I am aware that this is a long time for interviews and was surprised the participants took the time to explain in depth and discuss their viewpoints and opinions on the topic. In all instances the participants appeared happy to take the time. Regardless of the length of time in respect of the interview process and participant, I chose not to hurry or stop interviews.

4.8 Data Analysis

To analyse the data of FGDs and the semi-structured interviews, a general inductive approach was undertaken. This approach suggests that common themes will emerge from the data collected without pre-identifying an existing coding frame (Braun & Clarke, 2006). I followed Braun & Clarke's (2006) six steps: (1) familiarisation with the data, (2) preliminary coding of data, (3) theme identification across the content, (4) review of themes, (5) naming of themes, and finally (6) production of the report. For the analysis of the FGDs, I included the NGO staff that had been involved in the data collection. I led a debrief in which I ordered and structured the data that had emerged (steps 1 and 2). I presented the findings and then collectively the staff and I identified, reviewed and named the themes (steps 3-5). Thematic analysis draws out common themes from focus group data (Ross, 2012). This not only provided a collective approach to the data analysis but also allowed the staff (who were all CDCCC practitioners) to reflect on their own practise and consider challenges and opportunities.

For the semi-structured interviews, the transcriptions were analysed using a categorical aggregation. This followed Braun & Clarke's (2006) first five steps of the six-step process. This was considered appropriate as I expected that there would be commonalties or themes across the transcripts that according to Stake (1995) can be used for reflection

and consideration. Finally, I amalgamated the themes of the FGD and semi-structured interviews to develop a common picture across all participants and those involved in the data collection. I was interested in capturing any similarities and differences between the themes of the community members and practitioners. The sixth step involving production of results, which I present in the next chapter.

4.9 Ethics Approval

I undertook two ethical approval processes. Firstly, as required by AUT I obtained approval from Auckland University of Technology Ethics Committee (AUTEC). Ethical approval was granted under application 18/59. Secondly, I sought and received Vanuatu government endorsement for the study through the Vanuatu the National Advisory Board (NAB). NAB is the government body responsible for policy and advisory related for all disaster risk reduction and climate change programs (National Advisory Board, 2018). The NAB requires that all research relating to DRR and CCA receives endorsement, which can be requested by completing a templated form. Endorsement was provided under reference code: PV/MCCA/PROJ-NAB/CDCCCRes.

It was part of the AUTEC approved proposal that participants would be provided information sheets and written consent forms. In the communities the level of literacy there was concern amongst the researcher and assisting NGO representatives that many participants may have been confused or unable to understand what the document advised. I felt that giving this written information and requesting written consent was somewhat inappropriate and, if anything, would cause angst amongst participants. I did not want to cause embarrassment to participants by asking their level of comprehension, and at the same time I was concerned at the impression formalised documentation would cause in the community. It seemed this formalised process highlighted the presence of having a 'White Mrs' in the community, which was a name that community members frequently called me (as explained below). I understand that AUTEC advise generally this is required. In guidelines provided by AUTEC there is reference that if oral consent is culturally appropriate it should be recorded (Auckland University of Technology, 2020). However, there is no indication whether oral consent can be used instead of written consent. In addition, the terms and language used in gaining consent may be difficult to comprehend. Even when verbally explained the concepts described in the information sheet appear somewhat ethnocentric. The translation of the document into Bislama attempted to simplify the language. Terms such as 'ethics' and 'privacy' were difficult to

translate and explain. In addition, the information sheet advised participants that if they had questions about the study, they could contact the researcher's supervisor in New Zealand. Yet, some of these communities had limited phone and internet connectivity, let alone the devices and language skills required to converse with a foreigner in English.

In receiving approval through AUT, I noted that there did not appear to be a requirement for adherence to local requirements when working internationally. AUT's code of conduct for research (2019) includes the principal to "be respectful to other people, including acting with cultural intelligence and intellectual rigour (*pūkenga*) while respecting diverse values and communities (*manaakitanga*)" (p.3). The NAB advises that by seeking and gaining endorsement such activities can contribute to climate change and DRR governance in Vanuatu. By gaining their support not only am I following a fair and reasonable ethical process, but I am also gaining a Ni-Vanuatu government audience who may find benefit in the findings of this study. Gaillard & Peak (2020) advise that local voices should be at the forefront of disaster research. This thesis had Ni-Vanuatu participate in the design, data collection and analysis. By gaining NAB endorsement it also gave a platform for those voices to be heard at the government level or in this case, enabled the local government participants to be part of the study itself. Gaillard & Peak (2020) advise outside researchers can come into a local area with resources that may not be available to local voices. For this thesis I had access to academic materials, supervision, and, indirectly, funding through the MFAT grant. By using these resources collaboratively alongside local Ni-Vanuatu colleagues and participants, I could provide benefit to locals and for myself as an outsider. The research process for practitioners involved significant reflection which they can use in their work moving forward, and community members could reflect on developments and improvements to their own DRR practises.

I have reflected greatly on the ethical considerations as both a practitioner and a researcher in Vanuatu. As I worked for one NGO I was therefore affiliated to that NGO. As much as the NGO sector in Vanuatu is collaborative, agencies are also often competing for the same funding grants. My position therefore as a 'white' person/foreigner with potential perceived allegiance to one agency put myself and the participant practitioners in a potentially awkward space. The study from the onset could, after all, be considered an assessment of the NGO sectors previous work. While I had spent a lot of time with the practitioners, I was visiting all the communities for the first time and hence had to build relationships and trust. In the local communities my presence as an outsider, a foreigner, and a 'White Mrs' as many members called me came with connotations and an unequal

power relationship. I had not had the time to build the relationships like I had with the practitioner participants. Therefore on arrival to the various locations, I spent time being with community members building rapport in a variety of ways including the following examples: sharing stories, sharing food, playing with the village children, and depending on the community sharing kava. While this did not break down all barriers to being an outsider with the attendant unequal power dynamic, it assisted in improving our relationship and shifting some of the power.

4.10 Conclusion

This chapter has explained the participatory approach taken in the methodology. A focus of this approach is to allow for a shared power relationship between the researcher and research participants where both myself and the participants gain learnings (Chambers, 1994). To understand the extent to which CDCCCs sustainably contribute towards effective DRR and CCA, this chapter advised on two key parts to the method. The first part considers the viewpoints on CDCCCs effectiveness at the community level. This includes FGDs involving CDCCC members and community members. The second part of the method includes semi-structured interviews with practitioners from NGO and government workers who have responsibilities for developing CDCCCs with communities. This methodology intended to provide opportunity for documenting the role of CDCCCs in DRR and CCA, and to explore the challenges and opportunities in CDCCC effectiveness and sustainability. The results and discussion chapters will now explore the viewpoints of the participatory approach taken with the CDCCC. The complexity of participation, integration, accountability, and sustainability will be highlighted in the results and explored in the discussion. This will allow identification of the implications for policies geared towards effective CBDRR.

Chapter 5: Results

5.1 Introduction

This thesis examines the effectiveness and sustainability of Community-Based Disaster Risk Reduction (CBDRR), including Climate Change Adaptation (CCA), by using Vanuatu's Community Disaster and Climate Change Committees (CDCCC) as a case study. This chapter will explore the effectiveness of CBDRR and associated challenges by using the three pillars of effective CBDRR defined in chapter 2. Key themes that emerged through thematic analysis fit into these pillars and will form the sections of this chapter: participation, integration, and accountability. There are interrelated implications for each of the pillars and recognition that the challenges and opportunities associated with each one contributes to sustainability.

The methodology assumed that sustainability could be considered and compared in communities where the implementing agency was still active (for example, the Tafea based community) against those where the implementing agency had discontinued engaging with the community (for example, the Sanma communities had not had engagement with the implementing agency since 2014). However, at the time of data collection it was found that there were more similarities than differences between the locations. For example, in focus group discussions (FGDs) both communities advised they were unlikely to engage in formal CDCCC preparedness activities unless the implementing agency was present. Accordingly, the results are presented as a combination of both locations.

The first pillar to be explored will be participation. This section will examine the extent to which people participate actively in DRR through the CDCCCs. Section two, integration, will explore the extent to which the CDCCCs link with government, existing networks and development. Section three, accountability, will consider the capacity of the community, government and NGOs involved in CDCCCs, and their ability to follow through with CDCCC associated activities. Section four will summarise key themes associated with the ability of the CDCCC to be sustainable.

5.2 The Capacity of CDCCCs in Fostering Participation

Meaningful participation aims to provide a voice to all community members to engage in decision making which is socially, politically and culturally appropriate (Heijmans, 2009). Accordingly, this section will firstly consider who is given voice as part of the CDCCC and secondly how those included in the CDCCC are fostering participation.

5.2.1 *The Capacity of the CDCCCs to Include All Voices*

All five of the practitioners interviewed discussed the importance of including women, youth, and people with disabilities, which is part of the CDCCC guideline. However, there were mixed opinions on who could practically and appropriately be included, and the effectivity of this inclusion in the CDCCC model. The CDCCC's guideline requires committees to be compiled of a gender balanced group of community members with representation from youth and people with disabilities. All practitioners advised inclusiveness was necessary and important, however one practitioner suggested it was not possible to include everyone on the CDCCC. The example given was he could not include a hearing-impaired community member on the committee as it would cause issues for communication. In contrast the other practitioners advised it was important to include everyone so barriers to communication could be broken down.

There was mixed reporting on the effectivity of this inclusion. There were reports of both effective and ineffective inclusion. There were a small number of success stories related to inclusion. For example, one practitioner explained that community discussions around the importance of including all voices had led to the successful disclosure that a community member (father) had been hiding a child with disability in his home due to feelings of shame. After the disclosure, the community and practitioner retrofitted parts of the family home to make it more accessible. Despite not being specifically asked about inclusion in the community FGD Strengths Needs Opportunities and Challenges (SNOC) analysis, two of the six communities identified '*Mamas*' (women) as a strength in their community/CDCCC. One FGD advised that women were a strength because they could do some things that men could not do. They gave the example of how female CDCCC members had started a fundraiser for new batteries for their megaphone. The *Mamas* donated a plate of food to be sold at the '20 vatu market' specific for the CDCCC and saved enough to replace the batteries in the CDCCC megaphone. The women participants suggested men would not be able to fundraise like this.

Despite these success stories there were also concerns that sometimes forced inclusion could be ineffective. Three of the five practitioners advised that men did not necessarily listen to or allow women to speak, and four practitioners advised that people with disabilities may be able to attend discussions, but that their opinions may not necessarily be considered. The practitioners discussed how women and people with disabilities may be able to attend and be part of the CDCCCs, but it did not necessarily mean they were free to speak or participate in the decision making. One practitioner suggested that this was location-specific with different areas adhering to different gender and social norms. An example was provided where this inclusion may have had adverse impact. A practitioner explained that three female CDCCC committee members were publicly shamed by a male community member who believed women did not have a place in disaster management. He reportedly said: "Oh, thank you for all of your talking. But I see you are three women, and at the time of a disaster you will just go inside and sit down. Women are not strong." The practitioner advised that these women cried after the meeting. She also suggested that sometimes the husbands of female CDCCC members did not want them to be involved. Two of the practitioners interviewed further explained:

"It is a challenge especially when there are lot of women in the groups, and there is a person with disabilities, and you know in communities, it's like they still do not see that that person is able to do the same things that a normal or able-bodied person can do. They will be like...oh, its ok you can come and sit down, and we can do all the talking and we will make the decisions and stuff. That's the challenge when you have to include that person. They see that person as stupid." (Practitioner 4, 23rd November 2018).

"Sometimes men don't listen to the women or people with disabilities. Sometimes we include women and people with disability in the CDCCC, but the men don't allow them to speak" (Practitioner 1, 13th November, 2018).

While the practitioners discussed inclusion of the voices of all groups and especially named youth, women and people with disabilities as needing to be incorporated and included, there was one example of religious exclusivity. In Tafea one of the communities

was made of Christian faith villagers and John Frum followers¹. The CDCCC had no representation from the John Frum following community members. At the time of the FGDs, some of the John Frum community members came to listen. They were observed listening into the FGDs but did not actively engage. When questioned why the CDCCC had no representatives from this part of the community, the CDCCC members advised that the John Frum followers preferred not to mix with other faith groups. It was advised they did not participate in formal education which alluded to the idea that the CDCCC 'trainings' were education.

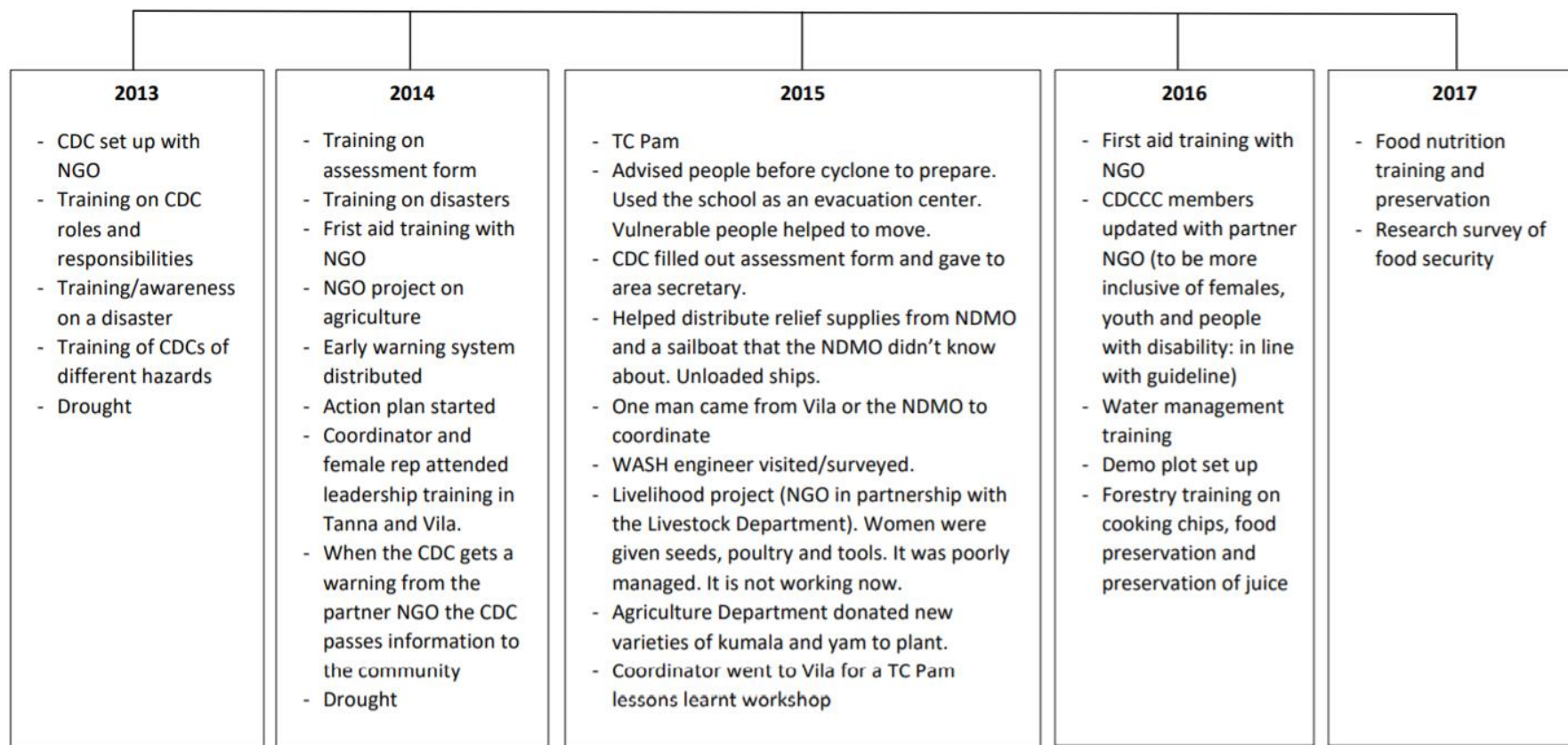
These results highlight the complexity of a forced inclusive approach. The data also provided insight into the way in which CDCCC members engaged. All six practitioners explained that a strength of the CDCCC approach was that CDCCCs' members were community members and therefore in an ideal position to prepare and respond to emergencies. The practitioners referred to participation as 'training,' which is in contradiction with a participatory approach. However, it was observed that this may have been a language or interpretation issue as there was some acknowledgement that this 'training' included community generated knowledge through participatory tools such as transect walks (a participatory process where community members, practitioners and any participating stakeholders walk through a defined space making observations on the environment and resources), a vulnerability and capacity assessment, and risk mapping. Regardless several findings related to the way in which CDCCCs were engaged.

5.2.2 The Capacity of CDCCCs to Engage in DRR Activities

There was a clear difference between participation in DRR and activities during disaster response. Firstly, data from all six timelines highlighted that the community members felt they were participating in DRR when receiving 'training' from the practitioners. For example, Figure **11** shows the Imatu community focus group only recorded DRR activity associated with NGOs or government support.

¹ Followers of the John Frum cargo cult worship an American WW2 serviceman by the name of John Frum. During WW2 Ni-Vanuatu witnessed American soldiers based in Vanuatu with a wealth of cargo. It is believed that John Frum will one day return to Vanuatu and reward his followers with cargo.

Figure 11: Timeline focuses on NGO interactions associated with DRR: transcribed from the community of Imatu



Note: Authors own transcription from, Imatu, Aniwa, 9th April 2018. The original transcript was written in a mixture of English and Bislama. The Bislama sections have been translated.

Outside of ‘trainings’ only the Ipayato community recorded a DRR activity which was not associated with an external agency. As per Figure 12, the community in South Santo were slowly building a community centre which they planned to use as an evacuation centre. However, the focus group discussion specified it was a community led project and not specifically a CDCCC project despite the CDCCC chairman being involved.

Figure 12: Ipayato community build a community evacuation centre



Note: Authors own: Ipayato, South Santo. 25th April, 2018.

In the FGDs the participants advised they were accustomed to preparing and responding to disasters. This seemed to suggest that they did not consider that these practises were part of formalised CDCCC structure, but rather just a part of their everyday lives. For example, a community member advised:

“We know some stuff that will help us. It is something we have already been practicing. It is already in our blood” (FGD participant: Tafea, 8th April 2018).

In all of the focus group timelines, the communities advised they had experienced and responded to disasters. The Tafea based communities who were still actively receiving support from an NGO advised that CDCCC participated in the response. The Santo based communities who had stopped receiving NGO support of their CDCCC advised it was a community led response. Responses included TC Pam, TC Donna, droughts, el nino and a landslide in South Santo. The villages in Tafea who were directly impacted by Cyclone Pam discussed their participation in relation to damage assessment (they completed the NDMO's community first assessment form) and distributions (food, shelter supplies and non-food items supplied by NGOs). The Sanma based villages advised that community members collected and sent food to impacted locations in Efate and Tafea. One CDCCC member said:

“We did our assessment forms after Cyclone Pam and gave them to the area secretary. The CDCCC took lead of the distributions. We got food and clothing from a sailing boat from New Caledonia, New Zealand dropped water from a helicopter, Santo gave us vegetables and fruit. Queenslanders (relatives from blackbirding) sent food and NFIs”. (Ikaukau focus group comment)

At the time of the data collection in Aniwa, the researcher was able to witness the local CDCCC responding to a tropical cyclone warning. Warnings and updates were broadcast over the radio. In Ikaukau the researcher observed the CDCCC members listening to their radio and passing messages on via a megaphone. Per Figure **13** the chairwoman of the CDCCC was observed pointing out the low on a cyclone tracking map on a community notice board after using her megaphone to alert community members. It was noted that the radio, megaphone and cyclone tracking map had been provided to the CDCCC as part of the training. Outside of disaster response all DRR activities mentioned related to when external agencies were providing some form of training or engagement.

Figure 13: CDCCC chairwoman advises a community member on the track of a tropical low on a cyclone tracking map.



Note: Authors own: Ikaukau, Aniwa. 8th April, 2018.

5.2.3 Exploring How CDCCC Members Participate (Or Do Not Participate)

There are many reasons for the lack of reported participation during DRR. Firstly, all the practitioners provided examples of how the community-based approach had not been contextualised, which could have implications for participation and sustainability. One of

the practitioners suggested that the CDCCC guidebook had idealised priorities that often did not fit the priorities and concerns of the local communities. Three of the five practitioners described how the language used in the handbook was difficult in Bislama and even more challenging when translated into local dialect. One of the practitioners noted that some of the words in the Bislama translation had no meaning and had been made up, including 'hazard' being referred to as '*hazard*' and vulnerability as '*volnarabiliti*.' One of the interviewees explained: advised:

“The handbook has not been contextualized. All locals have not taken ownership of it. No one has been thinking of the CDCCCs at the local context. For me it still a French and English model” (Practitioner 4, 23rd November 2018).

This so-called 'French and English' model can also be seen in the 'westernised' roles of the CDCCC. The practitioners all expected CDCCC members to participate through the roles and responsibilities prescribed in the CDCCC training, which included positions such as chairperson, treasurer and secretary. However, it appeared the community members saw little value in such positions and advised the roles did not fit in with their way of functioning. For example, as 'roles and responsibilities training' emerged during the FGDs, participants in four of the six FGDs advised that these roles were not followed. Four FGDs mentioned a 'coordinator' or 'chairperson' of the committee, which could suggest that some form of leadership role is followed. Community members advised:

“We don't use our roles. The secretary doesn't write. We don't have funds for the treasurer. We don't need roles. The Chairman delegates tasks and we do it”. (FGD participant: Tafea, 8th April 2018)

“Now all the responsibility is with the chief and the CDC chairman. No one is doing anything. Everyone in the CDC is still in the community, but only the chairman is active”. (FGD participant, Santo, 25th April 2018)

Some CDCCC members mentioned they made up their own roles. For example, one community member advised she looked after the megaphone. Another advised it was her job to listen to the radio – turning it on and off to save battery. In both cases the CDCCC members valued and appeared proud of these responsibilities and contributions.

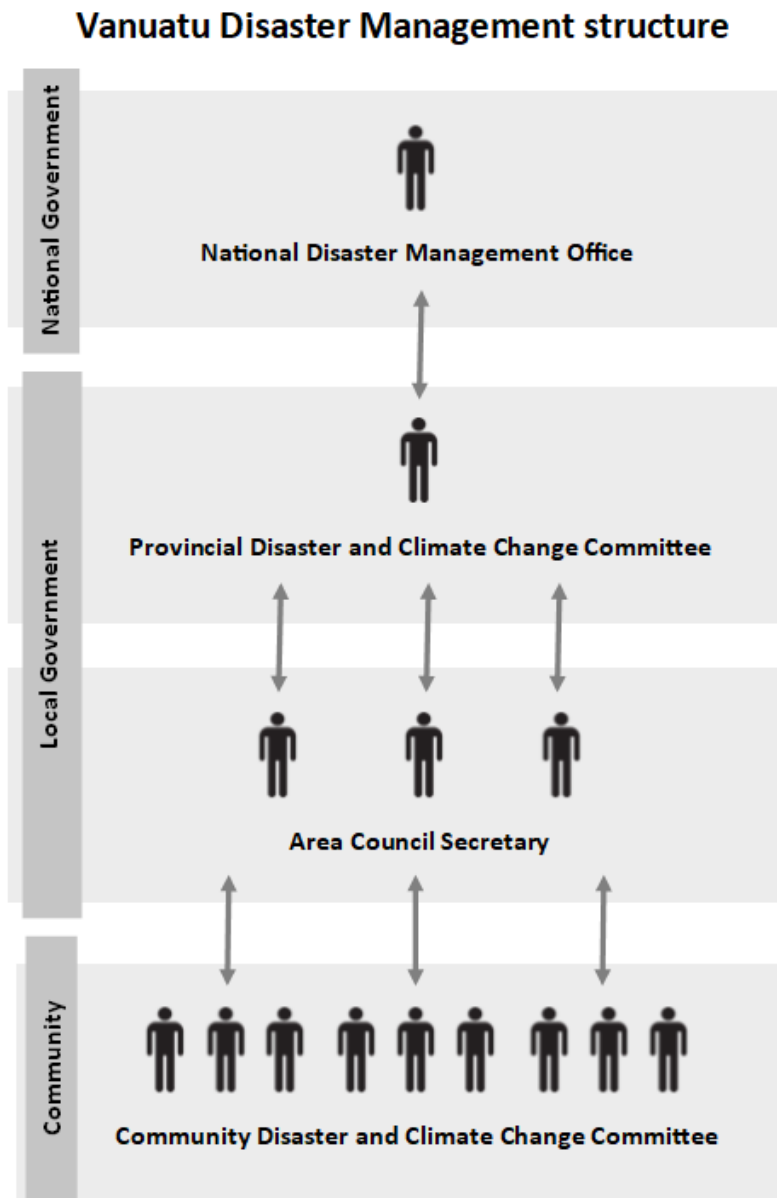
Results seem to indicate that community members did not see value in formalised meetings or activities, as reflected in the following statement:

“We don’t need a meeting. We see each other every day. We live next to each other. We work together in the garden. every day”. (FGD participant, Tafea, 8th April 2018).

5.3 The Integration of CDCCCs into Local and National Government Strategy

In the Vanuatu disaster management structure, the community is linked to local and national government (Figure 14). As part of this structure, CDCCCs are to complete the ‘First assessment form’ following a disaster or emergency, which, as discussed above, was seen after TC Pam in the Tafea based FGDs where CDCCCs were involved in the assessment and distribution. In preparedness it is expected that there is a connection and contact between the various levels. There were mixed findings on the effectivity of integration across the community and local and national government, between the practitioners and communities, and between preparedness and response.

Figure 14: Vanuatu disaster management structure



Source: Vanuatu Disaster Management Structure

Note. Adapted from Lamberti & Tamtam, 2016.

Despite the Tafea communities reporting they had followed the disaster management structure, four of the five practitioners expressed concerns that at times the connection between levels was insufficient or ignored. This included examples where the first assessment form had been completed and handed on by the community but not acknowledged. There were also examples where the first assessment form had been completed but was superseded by other assessments done by external agencies. This suggested the communication between the bottom-up, top-down links was fragmented. For example, the practitioners who were interviewed advised:

“The connection is broken at all levels. From area council to the province to the national level. Now we are trying to strengthen this. From my experience of previous responses, it is weak.” (Practitioner 3, 22nd November 2018)

“From past experiences CDCCCs have done the first assessment form. They have given it to the area secretary. The thing that they [CDCCCs] are not happy with, is that they never got a reply. The area secretary never gave them a reply. So, they felt that they were wasting their time”. (Practitioner 4, 23rd November 2018)

“We empower communities to do the assessment, but then if others come and do their own assessments it is not good. We cannot take over responsibility where they have been trained to do this. We have a system already”. (Practitioner 1, 13th November, 2018)

Amongst practitioners there were concerns expressed that other networks were not successfully integrated or even included. Three of the practitioners mentioned the need to ensure inclusion of government workers, such as health care workers and teachers. One practitioner advised that the CDCCC approach should better integrate custom, the chief system and the church. This echoes the first Ni-Vanuatu prime minister, Father Walther Lini, who famously announced in his independence speech: “God and custom must be the sail and steering-paddle of our canoe” (1980). In line with this, one practitioner suggested:

“There are three pillars in Vanuatu – government, church and custom – they depend on each other. So, the government has been running development, but with disaster they can’t do this on their own. During a disaster all these pillars need to work together. This would be a holistic approach to CDCCCs. The ownership of the CDCCC should be with the community and the governance structure of the church and the chief”. (Practitioner 5, 3rd December 2018)

The community and CDCCC members made no mention of linking their CDCCC to the church, however in the FGDs using the SNOC analysis all six of the FGDs mentioned the church, or in some cases more than one church, as a strength in their community. The chief or actions of the chief came up in all of the FGDs as a key focal point or leader of their community. For example, two communities advised that the chief and CDCCC

chairperson were the key people associated with preparing for and responding to a disaster. Another CDCCC explained that the chief publicly thanked them for their assistance after TC Pam, and that they expressed pride and validation for this. In one community the chairwoman was the wife of a chief. She herself recognised that the community trusted her position, which put her in a good place to be involved in the CDCCC. This has crossover with the incorporation of leadership into the CDCCC.

All the practitioners involved in this study mentioned the requirement of good leadership on the CDCCC. Four of the five practitioners advised poor leadership could be a challenge to the CDCCC's effectivity and sustainability. There was recognition that there were various existing leaders in the community – the chief, church leaders, and government workers such as teachers. At the same time, there was acknowledgement that leadership was multifaceted and at times political. These political alliances meant that care needed to be taken in keeping relationships harmonious, but also ensuring that leaders were not burdened with too many responsibilities:

“When we implement the CDCCCs we don't involve or emphasise the importance of community leaders enough: the chief, the church. The (CDCCC) approach is good, but we need to involve them more. We should use existing community structures or different lines of communication – church and chief systems. When a project just uses the community and there is no structure it doesn't work. We need to use existing (traditional and socio-cultural) structures”. (Practitioner 5, 3rd December 2018)

“I try to get at least one chief on the CDCCC as well – they are a lead informant into the council of chiefs. The CDCCC are just another group – where they should be regarded as that, so the leaders do not feel threatened The CDCCCs come under the leadership of the CDCCCs.” (Practitioner 4, 23rd November 2018)

As well as incorporating links to leadership to improve sustainability, the practitioners recognised that in order to be effective all voices within the community needed to be heard. All five practitioners discussed the inclusiveness of the CDCCC.

5.4 The Integration of Development Can Be Beneficial and Detrimental to DRR

All the practitioners discussed the relationship between development and DRR. Their discussions reflected that firstly development can have detrimental consequences to DRR and community resiliency, and secondly that there are opportunities to better use development programmes to strengthen the CDCCC and community's capacity to face disaster. All of the practitioners discussed finance or an increasing reliance on money within the communities. Three practitioners advised and gave examples of how this increased reliance on money was changing some of the traditional ways of coping. For example, this included buying imported foods instead of preserving locally available crops and using imported building supplies (iron and milled wood) instead of gathering locally available resources (natangora leaves and bamboo). There was concern that with an increasing desire to have money, communities were getting into logging, and in one area coconut plantations planted to sell copra had caused issues with erosion and flooding. One of the practitioners explained how the Recognised Seasonal Employer (RSE)² scheme exposed community members to Western ways of life and a source of income to fund Westernised products. A practitioner suggested that this change in mentality led communities to request Western building supplies to repair homes that could have been repaired by locally sourced materials. One of the practitioners acknowledged:

“Communities think if they make an assessment they will get a tarpaulin and a shelter kit, but actually there is *natangora* (local leaf used for roofing). There are thatched roofs in the community, and there is bamboo in the community. Now they come and ask for tarpaulin or iron sheets. They want timber and iron, but they have local resources in their community. They don't think about bamboo anymore”. (Practitioner 1, 13th November, 2018)

This practitioner implied that this reliance and belief in the superiority of 'westernised' products was at the expense of using more sustainable and readily available local resources. While practitioners could articulate that development had detrimental impacts to resiliency, they also advised that it gave opportunities to integrate development

² The Recognised Seasonal Employer (RSE) scheme brings temporary workers from Vanuatu and other Pacific Islands to New Zealand to undertake seasonal horticulture and viticulture roles such as fruit picking and pruning.

programmes and DRR. Four of the practitioners suggested there was opportunity to integrate money management or saving and livelihood schemes alongside DRR, including CCA activities. One practitioner explained how she had done this with communities despite it not being part of the CDCCC handbook. She worked with a community savings group to provide interest free loans to community members during an emergency. A practitioner advised on the complexity of several development programmes. She said development activities could contradict or support each other. By way of example, she described:

“With one of the communities I worked with we noticed that coastal erosion was increasing because they have been taking sand to build houses. After RSE a lot of them want to build better houses. So, they had been getting sand. The women in the community said they were going to talk to the chief to stop people from getting the sand. But, at the same time we had the health people (government health programme) saying the community had a lot of swamps. They were told they should dig up the swamps so that mosquitos would not breed. So, we combined these ideas: the women encouraged the men to dig the sand out of swamp areas where water could drain and use that sand to build houses”. (Practitioner 4, 23rd November 2018)

Here, by linking several projects, the practitioner could successfully support them all without conflicts. Community members could build ‘better’ houses without compromising coastal erosion, while at the same time reducing the risk of mosquito borne diseases by draining areas where water could breed mosquitos.

During FGDs using SNOC analysis the communities came forward with various strengths and weaknesses associated with development. For example, all of the communities mentioned water supplies were insufficient. All three communities in Tafea advised that there was insufficient healthcare as there was no nurse on the island. One community in South Santo mentioned they had an incomplete aid post. Resources associated with livelihoods were often mentioned as strengths. For example, one community in Tafea advised they had a freezer where they could store fish to sell. Another explained they had pigs and piglets to sell. Communication was discussed as a strength and weakness. Amongst all the Tafea communities it was recognised as a weakness where cell phone coverage is very limited; however, the community explained the chiefs of the island had

gotten together and offered to gift land to the Vanuatu telecommunication companies so they could build a tower. Despite making the offer several years ago, there were no plans among companies to take on such a project, but the chiefs advised the land would remain available.

5.5 Accountability is Largely Impacted by Capacity and Resource Accessibility

In theory CDCCCs link to the disaster management structure. As shown in Figure 1 in the introduction section the CDCCC (community level) links to area council (local government) which links to provincial government and then finally to the NDMO (national government, Lamberti & Tamtam, 2016). At all levels of the disaster management structure there were issues of accountability. Most of these were related to the capacity of the community, agency, and local and national governments and their ability to follow through with responsibilities.

5.5.1 *CBDRR Activities are Restricted by Access to Resources*

Development of the community action plans and response plans could be seen on all the timelines developed by the participants in the FGDs. The plans detailed various preparedness activities that the community were accountable for achieving. After their creation there was no mention on any of the timelines of the community using their plans or undertaking the activities listed. In the SNOC analysis four of the six FGDs mentioned that CDCCC work was voluntary, and that community members had various other commitments including generating income and gardening. For example, per the list below, in the community of Natchara five of the seven weaknesses listed were associated with CDCCC members' other responsibilities or commitments:

1. CDCCC members are involved in other community work.
2. CDCCC members have their own private work.
3. CDCCC members have too many commitments.
4. Most CDCCC members have taken up other leadership roles inside the community.
5. CDCCC has too many responsibilities.
6. The CDCCC is not functioning.

7. The community needs running water.

There was some evidence that despite not referring to the activities in the plans on the timeline some of the activities had been considered. For example, in Ipayato the community advised they were building a community 'safe house' (which was an action identified in their action plan) (Figure 12). After several years of building, the progress was slow due to not having enough materials or finance, and because community members had other commitments. It was noted that this was a project of the community (not the CDCCC) being led by the chief and CDCCC chairman.

All the practitioners interviewed advised that a lack of funding and resourcing for the action plans was a challenge. There was a consensus amongst them that the current community-based approach was unrealistic and unattainable without gaining resources necessary for its implementation. There were mixed views on who should be accountable for resourcing action plans. Four practitioners out of five advised that there should be some way the communities can fund the CDCCC actions themselves (for example, through linking to savings groups and fundraising). They noted that the external agencies needed to provide some resourcing or funding to support the activities. The following quote reflects the feeling of most practitioners involved in this study:

“We only talk about soft things. We do awareness, but we don't equip them with tangible things. We don't resource them through their action plans. We do a preparedness and a response plan, but then we have nothing to empower them”. (Practitioner 3, 22nd November 2018)

The practitioners emphasised that the 'awareness-based' approach to planning allowed for potential preparedness activities to be recognised but not implemented. There was a sense that plans would be unsuccessful due to the unrealistic activities identified. The local and national government's ability to access resources in order to support CDCCCs is challenging. Four of the five practitioners expressed concerns that at times the connection between community and government levels was insufficient or ignored. There is one paid position per area council taken by the area council secretary who has an array of responsibilities including linking with the CDCCC. At the provincial level, there is one dedicated Provincial Disaster Officer role responsible for all preparedness and response related activities (there are a total of six provinces in Vanuatu). Four of the practitioners interviewed advised on the capacity of the area council to link and coordinate with the CDCCC and province. This included comments around constraints related to workload,

funding, the large and sometimes challenging geographical area of responsibility, and lack of training that area councils had been provided with. One practitioner advised:

“Perhaps sometimes the community can’t find the Area Council, so they come directly to the province. It is a big challenge. One Area Secretary may have (responsibility for) more than 12 communities. All communities may be split up by long distances. We cannot blame the Area Secretary they have such a large area”. (Practitioner 1, 13th November, 2018)

The two key informants who had held positions as the provincial disaster officers (one current and one past) both advised that time, resourcing, and funding were obstacles to be able to work with CDCCCs. The current provincial disaster officer explained he had been involved in response work for much of the year and had no time to be able to focus on other areas. They both suggested it would be useful for a person from the province to be solely dedicated to DRR activities. For example, one of these practitioners advised:

“There is only one person for the province. We have limited funding, and we spend a huge time on responding for disaster and there is not enough time for CDCCCs. If I could have an officer with me who helped directly with DRR then they could work with the CDCCCs. With just having me, one person for DRR and response at the same time is very difficult”. (Practitioner 2, 20th November 2018)

There was some consistency with this in the FGDs. During the FGDs, the researcher did not specifically ask about CDCCCs’ interactions with the area council or province. Yet, two of the FGDs mentioned their ‘area secretary,’ and one mentioned their ‘province’ (local council) as a strength in their SNOC analysis. They then advised that funding to the area council was a ‘weakness’ implying obstacles to resourcing community DRR activities.

5.6 Practitioners/NGOs Require Opportunity to Learn and Develop Too

The practitioners were not explicitly asked about the capacity of NGOs to develop CDCCCs as this would have potentially compromised their positions as representatives for their respective organisations. However, two of the practitioners advised on their experience of this. Firstly, one practitioner explained prior to taking the role she had no experience

with DRR, and she had to learn on the job. She alluded that her organisation did not support her in upskilling or in improving the work that could be done with CDCCCs:

“It is not easy working in an organisation where there is a timeline for everything. For me it felt like my organisation was not interested in my desire to help the community and the CDCCCs develop. The organisation is like as long as the box is ticked, and the numbers come it’s all that matters. I don’t blame them. I can see that the communities need more than what we are giving. The organisation does not understand or doesn’t want to understand how deeply we need to work with the communities”.
(Practitioner 3, 22nd November 2018)

Another practitioner suggested she could see differences in the way NGOs set up CDCCCs. She advised it was clear that some organisations were shortcutting the process and did not understand it well. She advised it would be useful if NGOs trained together prior to working with CDCCCs. Both practitioners suggested the time-bound programming of NGO projects meant that there was pressure to achieve milestones, which impacted the effectiveness of their projects:

“Sometimes we find other partner organisations have carried out CDCCCs, but they have not set them up to a good standard, or they have not understood the process well. I’m sorry to tell you this. Some other organisations don’t follow the process and then they are full of problems. It is important every partner should come together so we come up with a standard. Even though we have the book (CDCCC guideline). We follow the timeframe of our own projects, and we don’t follow all the steps. Some just rush through. Sometimes there is no time to go through the book. There are plenty of us setting up CDCCCs, and plenty of our programmes allow us to do this DRR work, but organisations should be made to go through a training. It would be good to go through the book together step-by-step so the facilitators know about it”. (Practitioner 1, 13th November, 2018)

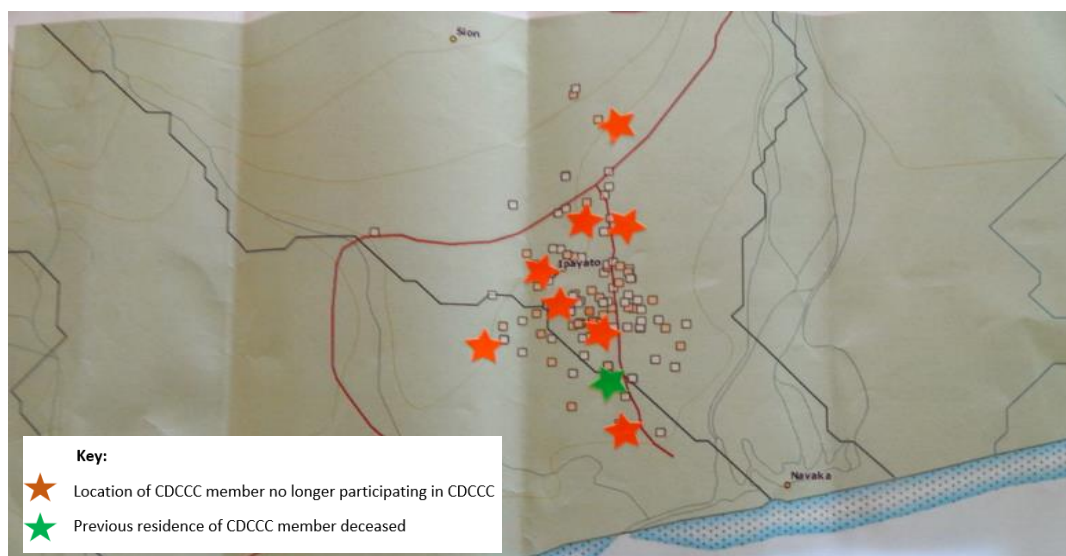
Both of these examples suggest staff may feel they are not well trained or supported to achieve the programmes, and that organisations can be driven by reaching pre-determined targets or milestones within timeframes which are not necessarily realistic.

5.7 Sustainability of CDCCCs is Impacted by Challenges Associated with Participation, Integration and Accountability

There is suggestion in the academic literature that NGOs expect that there will be ongoing outcomes to short-term CBDRR projects and that this may be unrealistic (Gaillard & Mercer, 2013). All practitioners advised that they did not believe the CDCCCs would continue without the engagement of the implementing agency. When questioned around why this was the case, it was advised there was no follow up or ongoing support available to communities/CDCCCs. It had been expected that there would be a difference between locations as the NGO in the Tafea communities was still actively providing training and support, whereas in Santo the NGO had finished the programme approximately three-four years before. However, in six FGDs CDCCC members advised they only considered themselves 'active' when the implementing agency was present or when they were responding to some form of disaster.

The CDCCC members were also expected to replace any CDCCC members who, for whatever reason, discontinued their positions on the committee. It was found across all FGDs with mapping activity that CDCCC members were not generally replaced. There was only one CDCCC that advised members had been updated, which was done under the guidance of the practitioners/NGO assisting the CDCCC. For example, Figure 15 illustrates that in Ipayato only the CDCCC chairperson was still active. One community member had died, and while the other CDCCC members resided in the community, they were not participating in any CDCCC activities.

Figure 15: Community map: Ipayato community focus group



Note. Ipayato community, 25th April 2018. Location of CDCCC members in the community. Community members were asked to indicate location of their CDCC members and mark if they were still active.

This finding indicates that without prompting or direction from the implementing agency the CDCCC’s membership will reduce over time or potentially cease to exist. As well as sustainability associated with membership, the challenges associated with participation, integration and accountability create obstacles for the CDCCC to be functional over time. By way of summarising this chapter, the challenges and opportunities are identified in Table 6.

Table 6: Summary of challenges and opportunities in the sustainability of CDCCCs

	Challenges to CDCCC’s over time	Opportunities to improve sustainability of CDCCCs
Participation	Participation of the CDCCC relies on outside engagement.	Incorporation of leadership is an opportunity.
	There are contextualisation issues with the CDCCC model, which contest participation and reduce effectiveness. This includes the way in which inclusivity is addressed within communities as enforced inclusion may reduce effectiveness, yet conversely an inclusive approach provides greater opportunity for vulnerable members to be informed, involved, and contributing to DRR.	There is opportunity to include existing networks and roles that the community values. For example, inclusion of church and chief system. Practitioners could be given greater opportunities to learn and develop understanding of CBDRR and associated participatory tools.
	CDCCCs do not participate in the roles and responsibilities as described in the CDCCC model.	There is opportunity to increase participation by allowing community members to determine roles and responsibilities.
Integration	The connection of the CDCCCs to local and national government is challenging.	There is opportunity to better understand and appropriately consider the resources available at all levels from community to local and national government. For example, resources/NGOs can also support government levels. Resourcing communities could include combining CBDRR activities with other development priorities, e.g. saving groups/initiatives.
Accountability	The communities’ ability to access resources to be accountable for the preparedness activities is a challenge.	

5.8 Conclusion

This chapter has documented the roles and outcomes of CDCCCs in DRR. It has explored the challenges and opportunities towards developing and maintaining effective and sustainable CDCCCs for DRR and CCA. The results indicate there are various challenges and opportunities associated with participation, integration and accountability that impact the effectiveness and sustainability of the approach. While the results indicate positive outcomes including community engagement in preparedness and community involvement in disaster response including the distribution of relief items, there are also several issues where there are suggestions of possible improvements. There is indication that the steps and tools associated with setting up CDCCCs at times hinder effectiveness and sustainability. This includes the mandating of roles, the prescribed forced representation of groups including women and people with disability, and the language used in the approach. The preparedness and response plans put unrealistic expectation on the community and government to undertake activities, which they cannot afford or do not have the resource to be able to achieve. Amongst these findings there are suggestions on how the CDCCC framework could be modified including allowing community members to choose their own roles and for the approach to draw upon existing networks such as church and ni-Vanuatu chief systems. Communities advised they were unlikely to engage in formal CDCCC preparedness activities unless the implementing agency/NGO was present. At the same time there are indications that the incorporation of local leadership could improve community ownership over CDCCCs and DRR activities. These findings have various implications on how the CDCCC can be supported and improved. They provide opportunity to identify implications for policies geared toward effective CBDRR. The following chapter will explore how the roles and outcomes of CDCCCs contribute to operationalising CBDRR. It will explore the challenges and opportunities of the CDCCCs and suggest that they are impacted by westernised values and worldviews which do not necessarily fit the Ni-Vanuatu context. The influence of CDCCC accountability and integration will be explored in the context of existing CBDRR literature, and finally, suggestions and recommendations will be provided on CBDRR policy and practise.

Chapter 6: Discussion

The previous chapter documented the role of the Community Disaster and Climate Change Committees (CDCCCs) in Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) by exploring four key themes: participation, integration, accountability and sustainability. This chapter will reflect on and evaluate the significance of these findings in the wider CBDRR context and the implications this has on policies associated with CBDRR through six sections. The first section explores how effective participation can be hindered by labelling and forced inclusion. The second section advises that effective participation must have flexibility in roles and responsibilities. The third section will explore the impact of contradictory goals in development and CBDRR which influence CBDRR effectiveness and accountability. The fourth section will discuss how community-based work must be integrated into other government level arrangements and the need for consideration of available resources and capacity. The fifth section will summarise how these reflections address the research question, and finally, recommendations on improving the effectiveness of CBDRR practice and policy with some consideration on limitations and suggestions for future research will be provided.

6.1 Effective Participation can be Hindered by Labelling and Forced Inclusion

This thesis examined the effectiveness of Vanuatu's nationwide CBDRR approach. In this approach practitioners develop CDCCCs within communities, and together they go through a series of participatory tools that allow them to complete pre-templated community response plans inclusive of DRR and preparedness activities. The effectiveness of the committees and their plans is mixed. First, the framework requires CDCCCs to have gender balanced representation inclusive of a representative for people with disability and youth. This study highlighted that forced representation alone does not equate to inclusive representation. While at times practitioners reported positive changes due to inclusion, there was mixed reporting on inclusion impacts. For example, in one community the committee was led by women. The women advised that they collectively had small fundraisers when they needed batteries for their radio. They openly advised that they did not think the men were capable of fundraising, and they made it clear that the CDCCC's effectiveness was due to their work. It was noted that the chairwoman of one of the CDCCCs was the wife of a chief. She openly advised she had community trust which made

her role effective. At the same time practitioners involved in this study advised that there were differences across locations. They explained that in many areas women or people with disability were included but ignored on the committee, and at worst, this caused community conflict due to their positions. This is consistent with other research that suggests forced representation can undermine existing power dynamics by putting people who may not normally be involved in decision making into positions of power (Cornwall, 2011). McDonnell (2019) suggests that such disaster plans presume that a community is unified, when in practise communities are made of people from many different groups with interests that shift. While it is important that measures are put in place that address the root causes of vulnerability for certain groups, forced representation could put them at risk and reinforce negative stereotypes and stigma rather than lead to empowerment (Cornwall, 2011). For example, in this thesis a practitioner explained that people with disability could be included and represented on the CDCCC, but that their inclusion did not involve any decision making and that they may be considered 'stupid' by other community members.

McDonnell (2019) warns of the 'dark side of resilience' where power and agency is either manipulated or supported through CBDRR activities. The agendas of all individual community members and groups, practitioners, donors and so forth hold political ramifications. The communities are not neutral environments. Committees' requirement to be inclusive of various community members (for example inclusion of women and people with disability) seems to suggest inclusive or equal rights. The 'reduced inequalities' and 'gender equality' goals have been used to prescribe representation on to disaster committees. NGOs can report that they have a particular number of women and people with disabilities represented, although, as this research points out, counting the number of women or people with disabilities is very different to meaningfully improving their status in the community. As discussed above women or people with disability were included but sometimes ignored on the committee, and at worst caused community conflict due to their positions. For example, a practitioner explained that in one village during a community meeting a man addressed the meeting by openly criticising and shaming women for their involvement in the CDCCC. He advised the community that women would only be able to sit inside during a disaster and implied they could not be useful on the CDCCC or during a disaster. This is not to suggest that such goals should not be strived for. After all, there were also examples where representation had led to positive outcomes. For example, one practitioner explained that after hearing

about inclusion of people with disability, one community member admitted that he had been hiding his physically disabled son inside his home. After a discussion with the NGO on inclusivity, this father and the community retrofitted his house to be more disability friendly, and the father allowed his son to be seen outside of the home. Previous research suggests labelling groups and the consequential treatment towards discrete social groups can at times undermine economically and socially significant relationships that exist in the community context (Moncrieffe & Eyben, 2007). The way in which groups or representatives contribute is important. Being present during CBDRR activities is different from having active engagement and/or having the social mandate to contribute and be a decision maker in that process (Cornwall, 2008). As there are mixed reports on the effectiveness of inclusion, there should be open conversation on the way in which governments express commitment, how donors look for alignment and how NGOs measure and evaluate their outcomes.

The concept of 'community' in Vanuatu's CBDRR approach is defined by the CDCCC guidelines – where there is direction on the geographical location. To define 'community' by geographical location or to class a demographic or group as a 'community' may assume that community is homogenous (Cannon & Schipper, 2014). This presents the risk of ignoring internal differences and conflicts within people from that 'community' (Cannon & Schipper, 2014) and suggests community 'elites' may over represent or hold greater power than other community members (Dutta, 2009). There are power dynamics within communities influencing participation and community decision making (Titz et al., 2018). There is vast research on the unequal power tendered to voices within groups and individuals in a certain community (Heijman, 2009; Gaillard & Mercer, 2013; Anderson & Woodrow, 1989; Hewitt, 1983). Communities are not homogeneous. Women, people with disabilities, children and other marginalised groups are often seen to be more at risk of the impacts of a disaster (Wisner et al., 2012). To provide inclusive representation where all voices are heard, CBDRR approaches, including CDCCCs, have put measures in place to include vulnerable groups on disaster committees that prepare for, respond to and recover from disasters. The CDCCC approach in Vanuatu, consistent with many other CBDRR guidelines (for example Oxfam International's Participatory Capacity and Vulnerability Analysis, 2012 and Care International's Climate Vulnerability and Capacity Analysis, 2009), include requirement for representation of women, people with disability and youth on the disaster committee. Previous research suggests that effective inclusion must consider the discrimination, marginalisation and exploitation that these groups may

encounter (Alexander et al., 2012; Kett & Twigg, 2007). Such changes should be expected to take generations. They are embedded in culture and social structures which evolve and change over much longer time frames than the common three- to five-year project timeframe of NGOs (Anderson, 2019; Lassa et al., 2018). For inclusion to be meaningful and effective, it must go beyond forced representation.

6.2 Effective Participation in CBDRR Should Involve Flexible Roles and Responsibilities.

As well as the makeup of the CDCCC, this study also explored the committees' effectiveness in undertaking the roles and responsibilities detailed in the CDCCC plans. During disaster response some CDCCC members expressed pride that their CDCCC could assist their community to respond to a disaster. However, the community members did not refer to their plans outside of their development with NGOs. The CDCCC members did not see any value in formalised meetings to address the activities listed in the plan. Most of the roles detailed in the plan (for example secretary and treasurer) were not followed. Consistently it was suggested that the DRR activities identified in the plan could not be resourced. This was consistent across locations and agreed upon by practitioners and community members. It included locations where the NGO was still active and communities where the NGO had stopped working. The community members and practitioners saw CBDRR as voluntary work, and they advised that community members were busy with various other commitments that they prioritised. When probed, community members suggested there were traditional practises and adaptation techniques they had been practising for years. They did not mention these activities as a part of their DRR activities, nor did they suggest any association with 'preparedness' or 'resilience.' It was noted that the words preparedness and resilience, although translated in the national or local language, were often new terminology for the community, as noted in other research in Vanuatu (Calandra, 2020).

Contrary to the very aim of 'participation', this frames the community as a place which requires external ways of knowing and being provided by external experts, without due diligence to the local existing strength and knowledge. Fletcher et al.'s (2013) DRR study of coping strategies in the Pacific recognised that traditional strategies were a capacity. However, they were not often recognised, relied on, or included in national arrangements. The authors suggested that such knowledge was shared verbally between generations and was not considered in formal arrangements. In development and DRR,

participatory methodologies have commonly been commended as a solution for providing a bottom-up, community-focused and community-empowered approach to decision making (Wisner, 1995; Delica-Willison & Gaillard, 2012; Gaillard & Mercer, 2013). Participation gives people a central role in making decisions that shape the interventions that affect them, rather than having them imposed on them (Guijt, 1998). However, there is suggestion that participation does not always fit the cultural context of developing nations (Cooke & Kothari, 2001). Lassa et al. (2018) suggest NGOs can report that they have developed plans inclusive of various preparedness activities. This may meet outcomes for the NGO; however, if the community does not have the resources to undertake identified activities, it raises questions on if these plans actually provide benefit to community members.

There is suggestion in the literature that NGOs and practitioners are now using 'participation' as a buzz word (Cornwall & Brock, 2005; Leal, 2007) to fulfil their own agendas. Often NGOs are driven by outcomes external to the community such as donor accountability (Cooke & Kothari, 2001). While the CDCCC framework ticks the boxes of the funder's preferences, the pre-templated framework risks contradicting the 'empowered' approach of participation and alludes to the idea that formalised and documented practises and terms are a superior source of knowledge and way of doing. However, there is some indication that with a flexible approach CDCCCs can overcome this. For example, within one CDCCC, community members had made up their own roles (for example, there was a person who looked after the radio and another person who made sure there was battery power) instead of following the mandated roles (for example, secretary and treasurer). In this community, CDCCC members expressed pride in their roles and illustrated that their responsibilities contributed to CBDRR. This could be seen in their use of an early warning system. The person who undertook the role of listening to the radio shared weather warnings with the chairperson. The chairperson then announced these warnings to the wider community using a megaphone, and community members were seen preparing for wind by strengthening their thatched roof homes. Accordingly, with adjusted levels of flexibility the current CDCCC model could provide greater levels of effectiveness.

It has also been suggested that 'participation' could be used to impose modernisation on developing nations (Henkel & Stirrat, 2001). This is not to deny that communities should modernise, but rather the intention of participation is that communities should have the right to decide how and what that development looks like for themselves. Pre-templated

planning documents and pre-determined roles and responsibilities that are completed through participation may lead to questions on just whose priorities are being met and supersede the drive to empower and involve community in decision making. Interestingly, these findings are not new to Vanuatu. About 30 years ago, Ali (1992) suggested that disaster plans that were developed in Vanuatu were symbolic rather than useful. It was advised the plans could be used to bring in donor funding via tangible Western systems, but that they lacked contextualised or practical implications for the local communities. This thesis suggests there is potential to keep the CDCCC guideline flexible so that roles and responsibilities can be adjusted to better fit the diverse communities in the Ni-Vanuatu context.

6.3 Accountability Should Include the ‘Trade-Offs’ of CBDRR and Development Activities

The contradictory nature of development has long been documented (Redclift, 1987; Redclift 2018). This can be seen in the current study where development in one sector has reportedly caused adverse impacts to another. For example, in one community a large coconut plantation had provided a means to generate funds. However, it was also blamed for an increased risk of flooding that triggered a landslide that covered a village. There was acknowledgement that various development projects had assisted with livelihoods and savings. At the same time there was also consideration that an increasing reliance on money meant that sometimes people chose to buy imported foods (that generated waste and were often linked to unhealthy food options) rather than rely on traditional crops and food preservation techniques. These findings are consistent with previous research acknowledging that through development humans are simultaneously destroying natural environments while at the same time trying to restore and recreate environments already impacted (Redclift, 1987; Campbell, 2014). While humankind has forever been changing and been impacted by changes to the environment, this issue is now a popular discourse amongst climate change discussions (Redclift, 2018).

Similar contradictions can be found in the trade-offs to gain education. School fees in Vanuatu can be prohibitive with reports of schools refusing entry to children where fees have not been paid (Ligo, 2019). In this study it was suggested the pressure on caregivers to raise funds for school led to the selling of forestry for logging and/or the selling of land. While CBDRR programming is not responsible for such contradictions, it does contribute to the complex social systems that create such conflicts. The relatively short-term nature

(perhaps 3 to 5 years) of NGOs' programmes has implications for the longevity of impacts and in some cases allows a platform for one project to contradict another. For example, in one community, after funding was completed for a CBDRR project, the NGO started a savings and livelihood project with a different fund. Accordingly, all community members who were CDCCC members ceased involvement in the disaster committee and became members of the savings committee. This indicates that in practice community are following the agendas of the NGOs, contrary to theory, whereby participation is meant to generate discussions on what needs to be done based on local people's priorities (Delica-Willison & Gaillard, 2012). This links back to discussion mentioned above in section 6.1 about how needs are prioritised and who prioritises them.

NGOs involved in CBDRR have to meet donors' needs by adhering to policy linked to development, CCA and DRR. For example, through the Australian government the Australian Humanitarian Partnership (AHP) fund aims to alleviate conflict and reduce the impacts of disasters and other humanitarian crises. The fund reflects the Australian government's commitment to the Sendai Framework for disaster risk reduction (2015-2030) and the UN's Sustainable Development Goals. Accordingly, before a community is even approached there are already pre-conceived ideas on priorities and what development should look like. NGOs that are bidding for AHP funding will align their programmes and activities to fit the outlined goals. However, the complexity of development creates challenges when considering some of these goals alongside one another. To use the examples above the UN goals of 'quality education' (i.e., school fees) and 'decent work and economic growth' (i.e., reliance on money) are sometimes coming at the expense of the goal to improve 'life on land' due to the deforestation and selling of land associated with making money. Deforestation and other changes to planting (e.g. the coconut plantation mentioned above) could have implications to the goal 'climate action'. Redclift (2019) has termed sustainable development an oxymoron due to such contradictions. Reporting on successes associated with specific goals and policy should go beyond reports on each goal or policy and consider the complex interactions and contradictions that exist between them. By applying for funding before engaging with a community, it also means that outsiders are deciding on priorities for communities.

In addition to NGOs' upward accountability where donors must be appeased (Edwards & Hulme, 1996), downward accountability involves the beneficiaries (Edwards & Hulme, 1996) or in this study the CDCCC's and community's members. The basic premise of CBDRR is that community members are empowered to participate and make decisions on

things that impact their lives (Freire, 1970; Pandey & Okazaki, 2005). In this study communities advised that mandated CDCCC roles were not followed and there appeared to be little interest in referring to the disaster actions plans they had formulated. However, there were instances where the community had deviated from the templated roles and responsibilities mandated in the CDCCC framework. In these situations, there appeared to be greater levels of ownership of the CDCCC and downward accountability. For example, in one community the CDCCC members advised on roles not listed in the guideline. These CDCCC members made up their own roles – including a person who stored the radio safely in their home, and another person who monitored the battery charge remaining on the radio. In these instances, the CDCCC members discussed their responsibilities with great pride and authority. There was much more meaning to these roles than a ‘secretary’ who did not write or a ‘treasurer’ where there was no funding. Accountability has been referred to as a key principal of community involvement and participation (Twigg, 1999). Community members are impacted by their beliefs, attitudes and motivations (Anderson & Woodrow, 1989). Accordingly, in this study when CDCCC members took the opportunity to undertake responsibilities they cared about, there was greater levels of CDCCC effectiveness.

Amongst communities there was also indication that CBDRR effectiveness was impacted by endorsement from local leadership or the chief. The National Disaster Management Office is part of Vanuatu’s democratic government. However, alongside this governance customary law continues to be practised with the chief providing direction when communities face issues or unrest (McDonnell, 2013). In some communities there was evidence of CBDRR occurring outside of the CDCCC plans and activities. In these cases, there was direction and endorsement from the chief. For example, in Aniwa the chiefs of the communities had come together and offered a private communication company land to put a communication tower to get better telephone coverage on the island. In Santo, one community and their chief were working together to build a ‘safe house’/evacuation centre. Although the CDCCC guideline suggests community leaders should be involved, it does not mandate their involvement like it does with women, people with disability and youth. However, in these communities it appeared CBDRR and CDCCC activities were occurring when supported by the chief. It appeared that first, CBDRR activities were effective when community members had the flexibility to be involved in matters that were important to them, and second that they were endorsed by the chief or a community leader. Shaw (2020) emphasises the importance of social networking for effective CBDRR.

This requires an understanding of local norms associated with decision-making and representation (Heijmans, 2012). Culturally appropriate CBDRR includes understanding the entry point to a community and the agents of change from within a community (International Federation of Red Cross, 2012). Community leaders have direct influence over communities, and their engagement can give access to networks leading to community mobilisation and long-term engagement after a CBDRR programme finishes (International Federation of the Red Cross, 2012).

6.4 CBDRR Must Consider the Capacity of Government and Local Resourcing to be Effective and Sustainable

CBDRR is best practiced in a united top-down and bottom-up manner, integrating the various governing levels in which that community operates (Kelman et al., 2009; Gaillard & Mercer, 2014). At all levels of the emergency management structure in Vanuatu, there are expectations on responsibilities. For example, CDCCCs are expected to undertake CBDRR activities, and the area council and provincial council are expected to link into the CDCCC during response. The present study suggests that there are incorrect assumptions made about these links. For example, at the community level the CDCCCs develop CBDRR activities and list these in their Community Action plans (Lamberti & Tamtam, 2016). It appears an assumption is made that community members will find resources to carry out these plans. However, amongst practitioners and community members it is advised that the activities cannot be completed or undertaken because there is insufficient funding or resourcing available. The area council and provincial council staff are expected to coordinate DRR and response, but staffing and resourcing is insufficient to be able to undertake this. There is research on how community-based work needs to link into wider social levels of government (Kelman et al., 2009; Gaillard & Mercer, 2013). This fosters the top-down and bottom-up approach of combining 'local knowledge' and 'technical knowledge' (Wisner, 1995) or 'indigenous knowledge' and 'scientific knowledge' (Delica-Willison & Gaillard, 2012; Gaillard & Mercer, 2013; Mercer et al., 2007). However, there is a lack of reflection at how theory is implemented effectively.

NGOs provide assistance in communities where the government does not have the resources to undertake such preparedness activities, which explains the popularity of NGOs implementing CBDRR projects in developing countries (Titz et al., 2018; Lassa et al., 2018). Nonetheless, the current research highlights that such projects assume that once plans and arrangements are developed the government has the resources and capacity

to honour them. For example, there was the assumption that the government would maintain contact with established CDCCCs yet this was not realised. In addition, it is expected that CDCCCs are used for initial disaster assessments and distribution of relief items. However, there is mixed reporting on this occurring with CDCCCs and practitioners advising that this does not consistently occur. Some communities advise that they have completed assessment forms that were ignored or no response occurred. This is consistent with research suggesting that after TC Pam external aid agencies dismissed some of the actions carried out by CDCCCs (Le Dé et al., 2018). The CDCCC approach in Vanuatu is implemented at the community level, and although there are theoretical links to local and national government, in this study the practitioners and community members recognised that local (area council and provincial council) lacked resources and the ability to support CDCCCs. Similarly, Vanuatu's National Disaster Management Office (2017) advises that DRR activities are challenged by limited provincial level funding and DRR related activity at the area council level. The constraints attached to funding have been recognised as detrimental to effective CBDRR, and these limitations suggest CBDRR requires critical management of funding and accountability (Gibson & Wisner, 2019).

The focus on 'community-based work' has perhaps led to a lack of acknowledgement of the capacity of local and national government. This greatly risks the ability of a CDCCC to function over time, if it relies heavily on the NGO. If the government does not have the resource to maintain CDCCCs once the NGOs grant funding is finished, there is the risk that the CDCCC will not continue once the NGO leaves a community. There is already awareness that to be successful CBDRR must encompass top-down processes including integrating knowledge, actions, and stakeholders for DRR (Gaillard & Mercer, 2013). This study indicates CBDRR must go beyond linking to government because it may not be sustainable if the government does not have the resources or capacity to undertake the roles expected of them.

Since the time data was collected for this study, this has started to be considered in Vanuatu. For example, after the Ambae response in Vanuatu (where 11,000 people were evacuated from an island due to an erupting volcano) recommendations for improvements have included working together for a more coordinated and collective planning approach, and communication specifically with government and donors (Australian Humanitarian Partnership, 2018). Implementation of this can be seen where NGOs are attempting to build capacity of local councils (including area council and provincial council) to work with and alongside communities (Australian Humanitarian

Partnership, 2018). While it is encouraging that this is happening retrospectively, there is opportunity to ensure future CBDRR work undertakes capacity building at every level from the very beginning of the programme, and reduces some of the ineffectiveness caused by capacity and resourcing issues. Each community links into intermediate, national and sometimes international levels to prepare for risks and ultimately be better prepared and coordinated during a disaster (Delica-Willison & Gaillard, 2012). This means that to be successful, CBDRR needs to encompass top-down and bottom-up processes (Gaillard & Mercer, 2013), and, as indicated in this study, this must consider resourcing and capacity of every level.

6.5 Conclusion and Recommendations for Improving CDCCCs

To bring back the original intention of this thesis the above reflections can be summarised to meet the objectives of this study. This thesis considered the extent to which Vanuatu's CDCCCs are sustainably contributing towards effective DRR and CCA. This was deemed relevant to the understanding of how CBDRR theory is operationalised. It sought to provide a case study to consider the level to which CBDRR is effective and sustainable. The study has highlighted some of the opportunities and challenges between bridging theory and practise. It is suggested that this study is not considered a criticism of the CDCCCs or a CBDRR approach, but rather a reflection that effective CBDRR requires consideration of a careful balance of participation, accountability, and integration to be sustainable over time. In Vanuatu the CDCCCs, NGOs, the provincial level government and National Disaster Management Office should be applauded for their efforts to collectively reduce disaster risk. At the same time each of these levels should consider the balance between a templated and mandated system versus having the flexibility and resources required to fit the variable needs of Ni-Vanuatu communities. In Vanuatu, the NGOs and government are basing their own approach and efforts on national and international policy and strategy. Accordingly, there are learnings at all these levels. It is the research hope that the relevance of findings will be useful for all of those involved in CBDRR – from the community members to the donors, practitioners, partner NGOs, local and national government, and international bodies that guide DRR and CCA guidelines.

In summary, the roles and outcomes of CDCCCs in DRR are mixed and there are some limitations to the design of the CDCCC. In its present state the approach is successful in illustrating a channel for preparedness, response and recovery activities to be coordinated through community members and different levels of government. For example, all

practitioners and community members taking part in this study were aware of these theoretical connections. The community members and practitioners saw benefit in engaging in CBDRR activities (for example, there were expressions of pride in some CDCCC members and desires to improve the functionality of CDCCCs). However, the challenge was in operationalising the activities associated with these connections. This leads to the objective of understanding the challenges and opportunities towards developing and maintaining effective and sustainable CDCCCs for DRR. As has been discussed in this chapter, challenges associated with the CDCCCs include a lack of adherence to the roles specified in the guideline, a lack of uptake on activities listed in preparedness planning, resourcing constraints on the ability of community and government to sustain activities and issues associated with forced representation of women and people with disability. However, alongside these challenges come opportunities. This thesis highlighted opportunities for improvements to the CDCCC approach. These opportunities included the suggestion that the incorporation of leadership and existing networks (i.e. the church and chief) system there could lead to greater functioning of the CDCCC. There were greater levels of engagement in CDCCCs where community members had deviated from the framework and selected their own roles, which indicates the benefit of CDCCC members having the flexibility to choose roles.

This thesis has explored the effectiveness of the CDCCC approach developed in different part of Vanuatu. This has various implications for policy at different levels. In Vanuatu at the national level, NGOs are endorsed by government through the National Disaster Management Office (National Disaster Management Office, 2017) and in Decentralization Act (2016). The NGOs use this endorsement and alignment to the Sendai Framework for disaster risk reduction (2015-2030) and the UN's 17 Sustainable Development Goals (2015) to validate funding through international aid (for example, Australian Humanitarian Partnership, 2018). While operating at the community level, the NGOs are guided by the funding requirements and priorities of these international funders. Accordingly, CBDRR activities are heavily influenced by the policy details of both national policy (e.g. National Disaster Management Office, 2017) and international policy (e.g., Sendai Framework for disaster reduction, 2015-2030 and the UN's Sustainable Development Goals, 2015). There is limited research to back up the longevity of project outcomes (Lassa et. al., 2018). As grant and donor funding have a start and an end, CBDRR projects have frequently reviewed and assessed short-term impacts of the CBDRR/CCA activities (Delica-Willison & Gaillard, 2012). This thesis has attempted to contribute

towards understanding the sustainability and effectiveness of CDCCCs by adding to the research on the longevity of CBDRR projects. The following recommendations are provided in consideration of development and alliance to policy related to CBDRR:

- Funders and NGOs should remain flexible to allow for community level decision on priorities and consequential development programmes;
- Communities should have the opportunity to consider trade-offs between development goals and decide what they would like to prioritise;
- CBDRR guidelines and frameworks must remain flexible. For example, disaster committee members should develop roles and responsibilities that are meaningful to them;
- Disaster committee structures must align with government level arrangements and have the flexibility to incorporate local and governmental leadership systems;
- DRR planning activities must fit with the available resources of the local community and those of the local and national government.

The recommendations above are drawn from the learnings of this study and are consistent with previous research on CBDRR effectiveness (Examples include: Twigg, 1999; Henders et al., 2015; Cronin et al., 2004; Lassa et al., 2018). They relate to three key areas that are prevalent in existing CBDRR literature: Participation (Cornwall, 2008; Heijmans, 2009; Gaillard & Mercer, 2013; Anderson & Woodrow, 1989), integration (Delica-Willison & Gaillard, 2012; Gaillard & Mercer, 2013; Mercer et al., 2010; Wisner, 1995) accountability (Gibson & Wisner, 2019; Twigg, 1999; Paripurno & Jannah, 2011; Edwards & Hulme, 1996). For CBDRR to be sustainable, CBDRR projects must consider the careful balance of these three areas.

6.6 Limitations of this Study and Suggestions for Future Researchers

Amongst CBDRR research there are gaps between theory and practice, and policy and actual outcomes (Heijmans, 2012). This study has contributed towards identifying how to bridge such gaps, but it is recommended that such consideration is afforded to other locations and contexts. After all, as this study has indicated, one of the challenges associated with CBDRR is the Western way of undertaking participation and prioritisation of development activities. One way this could be done would be to consider the response

of CDCCCs since 2020 TC Harold. The data collection of this study was prior to the devastation of this category five cyclone. It would be beneficial to review the CDCCC response to this. After TC Pam a consolidated approach was agreed to for CDCCCs. It would be useful to see how this approach has developed and changed since then. Also, of interest is that TC Harold occurred amidst COVID-19 border closures, which meant that there were limitations on surge support from international NGOs and foreign government. It would be a valuable case study to consider the impact on the ground amongst communities and their CDCCCs.

One of the other limitations to this research is that the researcher is as an outsider and a foreigner in Vanuatu. While steps were taken to work with and for participants – including having local Ni-Vanuatu present in all planning and data collection occasions – there were limits to this outsider/insider conundrum. In some focus groups the researcher was called a ‘White Mrs’ while visiting villages where data was collected. There was no malice intended in this term, rather this was more symbolic of a perceived power imbalance between historical colonisers and locals. Scholars and practitioners warn of unequal balances between participants and outsiders in the context of CBDRR (Gaillard & Peek, 2019). This perceived inequality in power means at times studies do not always reflect local realities. This can be seen in the current study when community members did not mention DRR related activities that they had initiated independent of the CDCCC approach. They did not consider these in relation to terms that the researcher used: ways to reduce ‘vulnerability,’ or ways to increase ‘resilience,’ however when probed they could explain exactly why they undertook everyday activities that were ultimately for the purpose of reducing vulnerability or increasing resilience. An outsider risks making inferences about ‘discoveries’ that are actually common knowledge for locals (Gaillard, 2020). Future CBDRR studies in this context will benefit from locally led researchers, and while this study worked alongside Ni-Vanuatu, more could be learnt if ‘insiders’ led from start to finish.

References

- Adams, W. (2015). Conducting Semi-Structured Interviews. In J. Wholey, H. Hatry & K. Newcomer (Eds.), *Handbook of Practical Program Evaluation*. Wiley Online Library. <https://doi.org/10.1002/9781119171386.ch19>
- Aldridge, J. (2015). *Participatory research: Working with vulnerable groups in research and practice*. Policy Press.
- Ali, L. (1992). Symbolic planning and disaster preparedness in developing countries: The Presbyterian Church in Vanuatu. *International Journal of Mass Emergencies and Disasters*, 10(2), 293-314.
- Anderson, B. (2019). *Community driven development: A field perspective on possibilities and limitations*. Australian National University.
- Anderson, M. M., & Woodrow, P. (1989). *Rising from the ashes: Development strategies in times of disasters*. Westview Press.
- Arnstein, S.R. (1969). A ladder of citizen participation. *Journal of the American Planning Association* 35(4), 216-224.
- Ashley, C., & Carney, D. (1999). *Sustainable livelihoods: Lessons from early experience*. Department for International Development.
- Auckland Civil Defence Emergency Management. (2016). *Civil Defence and emergency management group committee: Open agenda. 14 Dec 2016*. Auckland Council.
- Australian Humanitarian Partnership. (2018). *About Australian Humanitarian Partnership: An initiative of the Australian Government*. Retrieved June 03, 2020, from <https://www.australianhumanitarianpartnership.org/about>
- Australian Humanitarian Partnership. (2018). *Disaster Ready Vanuatu: Building preparedness in the midst of disasters*. <https://www.australianhumanitarianpartnership.org/field-stories/disaster-ready-vanuatu-building-preparedness-in-the-midst-of-disasters>
- Australian Humanitarian Partnership. (2018, December 15). *The changing tide of disaster preparedness*. <https://www.australianhumanitarianpartnership.org/field-stories/the-changing-tide-of-disaster-preparedness-vanuatu>
- Auckland University of Technology. (2019). *Auckland University of Technology code of conduct for research*. Auckland University of Technology. <https://www.aut.ac.nz/research/researchethics>
- Auckland University of Technology. (2020, August 11) *Applying for Ethics Approval: Guidelines and Procedures*. Auckland University of Technology. <https://www.aut.ac.nz/research/researchethics/guidelines-and-procedures#25>
- Bawole, J., & Langnel, Z. (2016). Downward accountability of NGOs in community project planning in Ghana. *Development in Practice*, 26, 920-932. <https://doi.org/10.1080/09614524.2016.1210094>
- Benson, C. & Clay, E. (2003). Disasters, vulnerability, and global economy. In: A. Kreimer, M. Arnold, & Carlin A. (Eds.), *Building safer cities: The future of disaster risk* (pp. 3-31). World Bank.

- Bernard, R.H. (1988). *Research Methods in Cultural Anthropology*. Sage Publications.
- Bhattacharyya, J. (2004). Theorizing Community Development. *Community Development*, 34(2), 5- 34. <https://doi.org/10.1080/15575330409490110>
- Birkmann, J. (2006). Measuring vulnerability to promote disaster-resilient societies: Conceptual frameworks and definitions. In: J. Birkmann, (Ed.), *Measuring vulnerability to natural hazards: Towards disaster resilient societies* (pp 9–54). United Nations University Press.
- Blaikie, P. (2006). Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development*, 34(11), 1942-1957. <https://doi.org/10.1016/j.worlddev.2005.11.023>
- Botes, L., & Van Rensburg, D. (2000). Community participation in development: Nine plagues and twelve commandments. *Development Journal*, 35(1), 41-58.
- Bradshaw, S., & Fordham, M. (2014). Double disaster: Disaster through a gender lens. In A.E. Collins, S. Jones, B. Manyena & J. Jayawickrama (Eds.), *Hazards, risks and disasters in society*. (pp. 233-251). Elsevier. <https://doi.org/10.1016/B978-0-12-396451-9.00014-7>
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <http://doi.org/10.1191/1478088706qp063oa>
- Briceno, S. (2015). Looking back and beyond Sendai: 25 years of international policy experience on disaster risk reduction. *International Journal of Disaster Risk Science*, 6, 1–7. <https://doi.org/10.1007/s13753-015-0040-y>
- Buggy L., & McNamara, K.E. (2016). The need to reinterpret “community” for climate change adaptation: A case study of Pele Island, Vanuatu. *Climate and Development*, 8(3), 270-280. <https://doi.org/10.1080/17565529.2015.1041445>
- Burton, I., Kates, R.W., & White, G.F. (1978). *The environment as hazard*. Oxford University Press.
- Care International. (2009). *Climate vulnerability and capacity analysis handbook*. https://www.care.org/sites/default/files/documents/CC-2009-CARE_CVCAHandbook.pdf
- Calandra, M. (2020). Disasta: Rethinking the Notion of Disaster in the Wake of Cyclone Pam, *Anthropological Forum*, 30 (1-2), 42-54. <https://doi.org/10.1080/00664677.2019.1647826>
- Campbell, J.R. (2009). Islandness: Vulnerability and resilience in Oceania. *Shima: The International Journal of Research into Island Cultures*, 3 (1), 85-97.
- Campbell, J.R. (2014). Development, global change and traditional food security in Pacific Island countries. *Regional Environmental Change*, 15, 1313–1324. <https://doi.org/10.1007/s10113-014-0697-6>
- Cannon, T., & Schipper, L. (2014). *World disasters report 2014: Focus on culture and risk*. International Federation of Red Cross and Red Crescent Societies. <https://www.ifrc.org/Global/Documents/Secretariat/201410/WDR%202014.pdf>
- Cannon, T., Twigg, J., & Rowell, J. (2003). *Social vulnerability, sustainable livelihoods and disasters*. Report to Department for International Development, Conflict and

Humanitarian Assistance Department and Sustainable Livelihoods Support Office.

- Chambers, R. (1989). Editorial edition: Vulnerability, coping and policy. *IDS Bulletin*, 20(2), 1-7.
- Chambers, R. (1994). Participatory rural appraisal (PRA): Analysis of experience. *World Development*, 22(9), 1253-1268. [https://doi.org/10.1016/0305-750X\(94\)90003-5](https://doi.org/10.1016/0305-750X(94)90003-5)
- Chambers, R. (2010). Paradigms, poverty and adaptive pluralism. *IDS Working Papers*, 344. https://doi.org/10.1111/j.20400209.2010.00344_2.x
- Cohen, J., & Uphoff, N. (1980). Participation's place in rural development: Seeking clarity through specificity, *World Development*, 8, 213-235. [https://doi.org/10.1016/0305-750X\(80\)90011-X](https://doi.org/10.1016/0305-750X(80)90011-X)
- Committee on the Elimination of Discrimination Against Women. (2007). *Concluding comments of the Committee on the Elimination of Discrimination Against Women: Vanuatu*. United Nations.
- Cooke, B., & Kothari, U. (2001). *Participation: The new tyranny?* Zed Books.
- Cornwall, A. (2003). Whose voices? Whose choices? Reflections on gender and participatory development. *World Development*, 31(8), 1325-1342. [https://doi.org/10.1016/S0305-750X\(03\)00086-X](https://doi.org/10.1016/S0305-750X(03)00086-X)
- Cornwall, A. (2008). Unpacking 'participation' models meanings and practices. *Community Development Journal*, 43(3), 269-283. <https://doi.org/10.1093/cdj/bsn010>
- Cornwall, A, ed. (2011). *The Participation Reader*. London: Zed Books.
- Cornwall, A., & Brock, K. (2005). What do buzzwords do for development policy? A critical look at 'participation', 'empowerment' and 'poverty reduction'. *The Third World Quarterly*, 26(7), 1043-1060. <https://doi.org/10.1080/01436590500235603>
- Cronin, S. J., Gaylord, D. R., Charley, D., Alloway, B. V., Wallez, S., & Esau, J. W. (2004). Participatory methods of incorporating scientific with traditional knowledge for volcanic hazard management on Ambae island, Vanuatu. *Bulletin of Volcanology*, 66(7), 652-668. <https://doi.org/10.1007/s00445-004-0347-9>
- Cronin, S.J., Petterson, M.G., Taylor, P.W., & Biliki, R. (2004). Maximising multi-stakeholder participation in Government and community volcanic hazard management programs; A case study from Savo, Solomon Islands. *Natural Hazards*, 33, 105-136. <https://doi.org/10.1023/B:NHAZ.0000035021.09838.27>
- Crowley, S. (1995). *A new Bislama dictionary*. University of the South Pacific.
- Davis, I., & Murshed, Z. (2006). *Critical guidelines: Community-based disaster risk management*. Bangkok: Asian Disaster Preparedness Centre (ADPC).
- Day, J., Forster, T., Himmelsbach, J., Kore, L., & Mucke, P. (2019). *World Risk Report 2019*. Bündnis Entwicklung Hilft & Ruhr University Bochum. <http://weltrisikobericht.de/english/>
- Decentralizaion Act 2016. (VU). Laws of the Republic of Vanuatu, CAP 230.

- Delica-Willison, Z., & Gaillard, J.C. (2012). Community action and disaster. In B. Wisner, J.C. Gaillard & L. Kelman (Eds.), *The Routledge handbook of disaster risk reduction* (pp. 669-680). Routledge.
- Department of Foreign Affairs and Trade. (2018). *Climate and disaster risk reduction guidance note*. Australian Government. <https://dfat.gov.au/about-us/publications/Pages/disaster-risk-reduction-and-climate-change-guidance-note.aspx>
- Department of Foreign Affairs and trade (n.d.). *Development assistance in Vanuatu*. <https://www.dfat.gov.au/geo/vanuatu/development-assistance/Pages/development-assistance-in-vanuatu>
- Dutta, D. (2009). *Elite capture and corruption: Concepts and definitions*. National Council of Applied Economic Research.
- Edwards, M., & Hulme, D. (1996). *Beyond the magic bullet: NGO performance and accountability in the post-cold war world*. Kumarian Press.
- Emergency Management Southland. (2020, October 11). *Your community: What is community planning?* <https://civildefencesouthland.govt.nz/your-community/>
- Enarson E., & Fordham M. (2001). From women's needs to women's rights in disasters. *Environmental Hazards* 3, 133–136. <https://doi.org/10.3763/ehaz.2001.0314>
- Fletcher, S. M., Thiessen, J., Gero, A., Rumsey, M., Kuruppu, N., & Willetts, J. (2013). Traditional coping strategies and disaster response: Examples from the South Pacific region. *Journal of Environmental and Public Health*, 2013, 264503. <https://doi.org/10.1155/2013/264503>
- Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.
- Foster, S., & Adams. (2019, November 4) *Vanuatu*. <https://www.britannica.com/place/Vanuatu>
- Gaillard, J.C. (2020). *Power, Prestige & Forgotten Values: A Disaster Studies Manifesto. Ipetitions*. <https://www.ipetitions.com/petition/power-prestige-forgotten-values-a-disaster>
- Gaillard, J.C., Cadag, J.R.D., & Rampengan, M.M.F. (2019). People's capacities in facing hazards and disasters: An overview. *Natural Disasters*, 95(3), 863-876.
- Gaillard, J.C., & Mercer, J. (2013). From knowledge to action: Bridging gaps in disaster risk reduction. *Progress in Human Geography*, 37(1), 93–114. <https://doi.org/10.1177/0309132512446717>
- Gaillard, J.C., & Mercer, J. (2014). A road map for disaster risk reduction post-2015. *Southasiadisasters.net*, 109, 9-10.
- Gaillard, J.C. & Peek, L. (2019). Disaster-zone research needs a code of conduct. *Nature*, 575, 440-442.
- Gaillard, J.C. & Peek, L. (2020, March 21). Towards a code of conduct for ethical post-disaster research. *Research Ethics Monthly*. <https://ahrecs.com/human-research-ethics/towards-a-code-of-conduct-for-ethical-post-disaster-research/>
- Geist, H.J. & Lambin, E.F. (2002). Proximate causes and underlying driving forces of tropical deforestation: tropical forests are disappearing as the result of many

- pressures, both local and regional acting in various combinations in different locations. *BioScience*, 52(2), 143-150.
[https://doi.org/10.1641/00063568\(2002\)052\[0143:PCAUDF\]2.0.CO;2](https://doi.org/10.1641/00063568(2002)052[0143:PCAUDF]2.0.CO;2)
- Gibson, T., & Wisner, B. (2019). Global overview of the role of NGOs in natural hazard governance. In V. Marchezini, B. Wisner, L.R. Londe, & S.M. Saito (Eds.), *Reduction of vulnerability to disasters: From action to knowledge* (pp.1-40). Oxford University Press.
- Government of Vanuatu. (2015). *Vanuatu Climate Change and Disaster Risk Reduction Policy 2016-2030*. Secretariat of the Pacific Community.
- Granderson, A. (2017). The Role of Traditional Knowledge in Building Adaptive Capacity for Climate Change: Perspectives from Vanuatu. *Weather, Climate and Society*, 9 (3), 545–561. <https://doi.org/10.1175/WCAS-D-16-0094.1>
- Gunia, A. (2020, April 17). This tiny nation has zero coronavirus cases. After a devastating cyclone, it's refusing foreign aid workers to keep it that way. *Time*.
<https://time.com/5820382/coronavirus-cyclone-harold-vanuatu/>
- Heijmans, A. (2009). The social life of community-based disaster risk reduction: Origins, politics and framing. *Disaster studies working paper*, 20. Aon Benfield University College, London Hazard Research Centre.
- Heijmans, A. (2012). *Risky encounters: institutions and interventions in response to recurrent disasters and conflict*. [PhD thesis, Wageningen University].
<https://edepot.wur.nl/202163>
- Henders, S., Persson, U, M, Kastner, T. (2015). Trading forests: Land-use change and carbon emissions embodied in production and exports of forest-risk commodities. *Environmental Research Letters*, 10(12).
<https://doi.org/10.1088/1748-9326/10/12/125012>
- Henkel, H. & Stirrat, R. (2001). Participation as spiritual duty: Empowerment as secular subjection. In B. Cooke & U. Kothari, *Participation: The new tyranny* (pp.168-184). Zed Books.
- Hewitt K (ed.). (1983). *Interpretations of Calamity from the Viewpoint of Human Ecology*. Allen and Unwin.
- Higginbottom, G., & Liamputtong, P. (2015). *Participatory qualitative research methodologies in health*. Sage Press.
- Hore, K., Gaillard, J.C., Davies, T. & Kearns, R. (2020). People's Participation in Disaster-Risk Reduction: Recentering Power. *Natural Hazards Review*, 21, 2.
- Inglehart, R. & Welzel, C. (2005). *Modernization, cultural change and democracy: The human development sequence*. Cambridge University Press.
- International Federation of Red Cross. (2006). *What is VCA? An introduction to vulnerability and capacity assessment*. International Federation of Red Cross and Red Crescent Societies.
<https://www.ifrc.org/Global/Publications/disasters/vca/whats-vca-en.pdf>
- International Federation of Red Cross. (2006). *World Disasters Report 2006: Focus on neglected crisis*. International Federation of Red Cross and Red Crescent

Societies. <https://www.ifrc.org/en/publications-and-reports/world-disasters-report/wdr2006/>

International Federation of Red Cross. (2012). *Key detriments of a successful CDBRR programme Community Based Disaster Risk Reduction Study: ARUP International Development*. . International Federation of Red Cross and Red Crescent Societies. <https://www.rcrc-resilience-southeastasia.org/document/key-determinants-of-a-successful-cbdrp-programme-2011/>

International Institute for Environment and Development. (2020, October 11). *Monitoring, evaluation and learning: participatory learning and action*. <https://www.iied.org/about-pla>

Joshua, J. (2015, October 23). Deputy PM, Ministers, Speaker and MPs jailed. *Daily Post*. https://dailypost.vu/news/deputy-pm-ministers-speaker-and-mps-jailed/article_cda9d328-5385-53ee-9f61-3f1fbfa5cc72.html

Kelman, I., Mercer, J., & Gaillard, J.C. (2017). *The Routledge handbook of disaster risk reduction including climate change*. Routledge.

Kelman, I., Mercer, J., & West, J. (2009). Combining different knowledges: Community-based climate change adaptation in small island developing states. In H. Reid, M. Alum, R. Berger, T. Cannon, S. Huq & A. Milligan (Eds.), *Participatory learning and action: Community-based adaptation to climate change* (pp.41-52). The International Institute for Environment and Development.

Kernot, S. & Sakita, L. (2008). *The role of chiefs in peacebuilding in Port Vila*. The Australian National University, Research School of Pacific and Asian studies: state, society, and governance in Melanesia. Discussion paper 2008/04.

Kumar, S. (2002). *Methods for community participation: A complete guide for practitioners*. Vistaar publications.

Leal, P.A. (2007). *Participation: The ascendancy of a buzzword in the neo-liberal era*. *Development in Practice* 17(4-5), 539-548. <https://doi.org/10.1080/09614520701469518>

Lamberti, J., & Tamtam, H.L. (Ed.). (2016). *Vanuatu Komuniti beis disasta risk ridaksen: Nasonal hanbuk blong komuniti fasiliteta [Vanuatu community-based disaster risk reduction: National handbook for community facilitators]*. Humanitarian Aid and Civil Protection.

Lassa, J.A., Boli, Y., Nakmofa, Y., Fanggidae, S., Ofong, A. & Leonis, H. (2018). Twenty years of community-based disaster risk reduction experience from a dryland village in Indonesia, *Jàmbá: Journal of Disaster Risk Studies*, 10(1), a502. <https://doi.org/10.4102/jamba.v10i1.502>

Le Dé, L., Rey, T., Leone, F. & Gilbert, D. (2018). Sustainable livelihoods and effectiveness of disaster responses: A case study of tropical cyclone Pam in Vanuatu. *Natural hazards*, 91(3), 1203-1221. <https://doi.org/10.1007/s11069-018-3174-6>

Liamputtong, P. (2012). *Qualitative research methods, (4th ed.)*. Oxford University Press.: 9780195518559

Ligo, G. (2019, January 19). School fee crisis. *The Daily Post*. https://dailypost.vu/news/school-fee-crisis/article_66212713-20bf-54d8-b465-

[ff10806a4cc6.html#:~:text=Daily%20Post%20understands%20that%20the,000%20for%20the%20third%20term.](#)

- Lini, W. (1980). *Beyond pandemonium: From New Hebrides to Vanuatu*. Asia Pacific Books and Institute of Pacific Research.
- Lu, J. (2015). Which nonprofit gets more government funding? Nonprofits' organizational attributes and their receipts of government funding. *Nonprofit Management and Leadership*, 25(3), 297-312.
<https://doi.org/10.1002/nml.21124>
- Magni, G. (2016). *Indigenous knowledge and implications for the sustainable development agenda*. Paper commissioned for the Global Education Monitoring Report 2016, Education for people and planet: Creating sustainable futures for all. United Nations Educational, Social and Cultural Organization.
- Maskrey, A. (1989). *Disaster mitigation: A community-based approach*. Oxfam Publications.
- Maskrey, A. (2011). Revisiting community-based disaster risk management. *Environmental Hazards*, 10(1) 42-52. <https://doi.org/10.3763/ehaz.2011.0005>
- McDonnell, S. (2013). Exploring the Cultural Power of Land Law in Vanuatu. Intersections: Law as a Performance that Creates Meaning and Identities. *Gender and Sexuality in Asia and the Pacific*, 33.
- McDonnell, S. (2019). Other Dark Sides of Resilience: Politics and Power in Community-Based Efforts to Strengthen Resilience, *Anthropological Forum*.
<https://doi.org/10.1080/00664677.2019.1647828>
- McGarry, D. (2019, April 11). IMF supports income tax. *Daily Post*.
http://dailypost.vu/news/imf-supports-income-tax/article_f3e7c722-cd9d-5a28-a879-093faec244e7.html
- McGillivray, M., Popplewell, E., & Cribbens, N. (2018). *Evaluation of MFAT's partnerships fund: Final report*. New Zealand Ministry of Foreign Affairs and Trade.
- Mercer, J. (2008). *Integrating indigenous and scientific knowledge for disaster risk reduction on small island developing states* [Doctoral thesis]. Macquarie University.
- Mercer, J., Dominey-Howes, D., Kelmen, I., & Lloyd, K. (2007). The potential for combining indigenous and western knowledge in reducing vulnerability to environmental hazards in small island developing states. *Environmental Hazards*, 7, 245-256. <https://doi.org/10.1016/j.enhaz.2006.11.001>
- Mercer, J., Kelman, I., Taranis, L., & Suchet-Pearson, S. (2010). Framework for integrating indigenous and scientific knowledge for disaster risk reduction. *Disasters*, 34(1), 214–239. <https://doi.org/10.1111/j.1467-7717.2009.01126.x>
- Ministry of Foreign Affairs and Trade. (2019). *Strategic intentions: 2019-2023*. New Zealand government. <https://www.mfat.govt.nz/assets/About-us/MFAT-Strategic-Intentions-2019-2023.pdf>
- Moncrieffe, J., & Eyben, R. (2007). *The power of labelling: How people are categorized and why it matters*. Earthscan.

- National Advisory Board (2018). *National advisory board on climate change and disaster risk reduction*. Government of Vanuatu. <http://www.nab.vu/>
- National Disaster Management Office. (2015). *NDMO strategic plan 2016 - 2020*. Ministry of Climate Change Adaptation, Meteorology and Geohazards, Energy, Environment and National Disaster Management Office. <https://ndmo.gov.vu/images/download/NDMO/Documents/ndmo-strategic-plan-2016-2020.pdf>
- National Disaster Management Office. (2017, August 7). *NDMO DRR programme and priorities: provincial and community level* [PowerPoint slides]. Presentation at the Australian Humanitarian Partnership workshop. National Disaster Management Office.
- National Emergency Management Agency. (2020, September 27). *CDEM Resilience Fund*. New Zealand Government. <https://www.civildefence.govt.nz/cdem-sector/cdem-resilience-fund/>
- National Geographic (2018, January 11). *Ring of fire*. <https://www.nationalgeographic.com/science/earth/ring-of-fire/>.
- Nations Online (2019, November 4). *Administrative map of Vanuatu*. <https://www.nationsonline.org/oneworld/map/vanuatu-map.htm>
- O’Keefe, P., Westgate, K., & Wisner, B. (1976). Taking the naturalness out of natural disasters. *Nature*, 260(5552), 566-567. <https://doi.org/10.1038/260566a0>
- Oxfam International. (2012). *Participatory capacity and vulnerability analysis: A practitioner’s guide*. Oxfam Publications. <https://policy-practice.oxfam.org.uk/publications/participatory-capacity-and-vulnerability-analysis-a-practitioners-guide-232411>
- Pandey, B., & Okazaki, K. (2005). Community based disaster management: Empowering communities to cope with disaster risks. *Regional Development Dialogue*, 26(2), 52-57.
- Paripurno, E.T., & Jannah, N.M. (2011). *Community based disaster risk management guidelines*. Masyarakat Penanggulangan Bencana.
- Penfold, C. (2014). Developing legal communication skills in the South Pacific context. *Legal Education Review*, 24 (1) 7.
- Petrou, K. & Connell, J. (2016). Food, Morality and Identity: Mobility, remittances and the translocal community in Paama, Vanuatu. *Australian Geographer*, 48 (2), 219-234. <https://doi.org/10.1080/00049182.2016.1204671>
- Pretty, J. (1995). Participatory learning for sustainable agriculture. *World Development*, 23(8), 1247–1263. [https://doi.org/10.1016/0305-750X\(95\)00046-F](https://doi.org/10.1016/0305-750X(95)00046-F)
- Putnam, R.D. (2000). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Reason, P. and Bradbury, H. (2008) (eds.). *The Sage handbook of action research: participative inquiry and practice*. Sage Publications. <https://doi.org/10.4135/9781848607934>
- Redclift, M. (1987). *Sustainable Development*. Routledge. <https://doi.org/10.4324/9780203408889>

- Redclift, M. (2018). Sustainable development in the age of contradictions. *Development and Change*, 49, 3, 695-707. <https://doi.org/10.1111/dech.12394>
- Roberts, A. (2019, May 4). PM supports income tax. *Daily Post*. http://dailypost.vu/news/pm-supports-income-tax/article_44d6a59e-43e4-5250-a8cf-54e284410765.html
- Ross, T. (2012). *A survival guide: Health research methods*. Open University Press.
- Sapere Research Group. (2017). *The Ministry of Foreign Affairs and Trade: Independent evaluation of the Vanuatu Country Programme*. <https://www.mfat.govt.nz/assets/Aid-Prog-docs/Evaluations/2017/Vanuatu-CPE-inclusive-eco-dvlpmt-V2-30Nov17.pdf>
- Scoones, I. (1998). *Sustainable Rural Livelihoods: A framework for analysis*. Working Paper 72, Institute of Development Studies.
- Secretariat of the Pacific Community. (2016). *Tropical cyclone Pam lessons learned: Workshop report 2016*. Secretariat of the Pacific Community.
- Stake, R. E. (1995). *The art of case study research*. Sage Publications.
- Susman, P., O’Keefe, P., & Wisner, B. (1983). Global disasters: A radical interpretation. In K. Hewitt, (Ed.), *Interpretations of calamity from the viewpoint of human ecology* (pp. 263–283). Allen and Unwin.
- Tanguay, J., Haberkorn, G., & Buffière, B. (2013). *Hybrid survey*. The Vanuatu National Statistics Office.
- The Asian Disaster Preparedness Center. (2006). *Mainstreaming disaster risk reduction into development policy, planning and implementation into Asia*. The Asian Disaster Preparedness Center. https://www.preventionweb.net/files/2302_adpcdevelopmentnov06.pdf
- The Government of the Republic of Vanuatu. (2016). *Vanuatu 2030 The People’s Plan: national sustainable development plan 2016-2030*. Department of Strategic Policy, Planning and Aid Coordination. <https://www.gov.vu/images/publications/NSDP%20M&E%20Framework.pdf>
- The Vanuatu National Statistics Office, (2009). *National population and housing census: Analytical report, volume 2*. Ministry of Finance and Economic Management.
- The Vanuatu National Statistics Office. (2016). *Mini census report: Volume 1*. Ministry of Finance and Economic Management.
- The Vanuatu Red Cross Society and Solomon Islands Red Cross. (2011). *Together becoming resilient: Lesson’s learnt workshop*. https://www.preventionweb.net/files/20422_20422togetherbecomingresilient/esso.pdf
- Titz, A., Cannon, T., Krüger, F. (2018). Uncovering ‘community’: Challenging an elusive concept in development and disaster Related Work. *Societies*, 8, 71. <https://doi.org/10.3390/soc8030071>
- Twigg, J. (1999). The age of accountability?: Future community involvement in disaster reduction. *Australian Journal of Emergency Management*, 14(4), 51–58.

- Twigg, J. (2001). *Sustainable livelihoods and vulnerability to disasters*. Benfield Greig Hazard Research Centre, Disaster Management Working Paper, 2/2001.
- United Nations Climate Change Convention. (2019). *What is the United Nations framework convention on climate change?* <https://unfccc.int/bigpicture>
- United Nations General Assembly. (2015). *Transforming our world: the 2030 agenda for sustainable development*. 21 October 2015, A/RES/70/1. <https://sdgs.un.org/2030agenda>
- United Nations International Strategy for Disaster Reduction. (2006). *Hyogo framework for action 2005–2015: Building the resilience of nations and communities to disasters*. <https://www.unisdr.org/2005/wcdr/intergover/official-doc/L-docs/Hyogo-framework-for-action-english.pdf>
- United Nations International Strategy for Disaster Reduction. (2015). *Sendai framework for disaster risk reduction 2015–2030*. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>
- United Nations International Strategy for Disaster Reduction. (2018). *Briefing note 01: Climate change and disaster risk reduction*. <https://www.undrr.org/publication/briefing-note-01-climate-change-and-disaster-risk-reduction>
- United Nations International Strategy for Disaster Reduction. (2019). *Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction*. <https://www.undrr.org/publication/report-open-ended-intergovernmental-expert-working-group-indicators-and-terminology>
- United Nations Office for the Coordination of Humanitarian Affairs. (2019). *Rohingya refugee crisis*. <https://www.unocha.org/rohingya-refugee-crisis/>
- Vanuatu Customs and Inland Revenue Department. (2020). *Taxes and licencing*. <https://customsinlandrevenue.gov.vu/index.php/en/legislations/taxes-licensing>
- Vanuatu Financial Services Commission. (2020, June 06). *History of Vanuatu*. <https://www.vfsc.vu/about-us/history-of-vanuatu/>
- Vanuatu Red Cross Society. (2013). *Community based disaster risk reduction: handbook for local facilitator*. <https://static1.squarespace.com/static/55679bc4e4b0c51fbacf7d0d/t/5728003122482ec22ed633ef/1462239322806/DRR+Handbook+ENG.pdf>
- Vanuatu Women’s Centre. (2011). *Vanuatu national survey on women’s lives and family relationships*. Vanuatu Women’s Centre. https://mjcs.gov.vu/images/research_database/Vanuatu_National_Survey_on_Womens_Lives_and_Family_Relationships.pdf
- Warrick, O. (2009). Ethics and methods in research for community-based adaptation: Reflections from rural Vanuatu. In H. Reid, M. Alum, R. Berger, T. Cannon, S. Huq & A. Milligan (Eds.), *Participatory learning and action: Community-based adaptation to climate change* (pp.76-87). The International Institute for Environment and Development.

- Warrick, O. (2011). *The adaptive capacity of the Tegua island community, Torres Islands, Vanuatu*. Pacific Australia Climate Change Science and Adaptation Planning (PACCSAP) program. Australian Government: Department of Climate Change and Energy Efficiency.
- Webb, J. (2017). *Does gender responsiveness disaster risk reduction make a difference?* https://www.care.org.au/wpcontent/uploads/2014/11/CARE_Vanuatu_DRR_Impact_Study_3_FINAL_web_amend.pdf
- White, G.F., Kates, R.W. and Burton, I. (2001). Knowing better and losing even more: The use of knowledge in hazards management. *Global Environmental Change Part B: Environmental Hazards*, 3, 3-4, pp. 81–92. <https://doi.org/10.3763/ehaz.2001.0308>
- White, H., Menon, R., & Waddington, H. (2018). *Community-driven development: Does it build social cohesion or infrastructure? A mixed-method evidence synthesis*. Working Paper 30. International Initiative for Impact Evaluation.
- Wisner, B. (1995). Bridging “expert” and “local” knowledge for counter-disaster planning in urban South Africa. *GeoJournal*, 37, 335–348. <https://doi.org/10.1007/BF00814014>
- Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2003). *At risk: Natural hazards, people's vulnerability and disasters* (2nd ed.). Routledge.
- Wisner, B., Gaillard, J.C., & Kelman, I. (2012). Framing disaster: Theories and stories seeking to understand hazards, vulnerability and risk. In L. Kelman, J. Mercer & J.C. Gaillard (Eds.), *The Routledge handbook of disaster risk reduction including climate change* (pp.18-33). Routledge.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.

Appendix One: Consent Forms

Example of consent form given to participants: English version



Consent Form

Project title: **Investigating the sustainability of Community Disaster and Climate Change Committees in Vanuatu**

Project Supervisor: **Loic Le De**

Researcher: **Jackie Bubb**

- I have read and understood the information provided about this research project in the Information Sheet dated 12 05 2009.
- I have had an opportunity to ask questions and to have them answered.
- I understand that identity of my fellow participants and our discussions in the focus group is confidential to the group and I agree to keep this information confidential.
- I understand that notes will be taken during the focus group and that it may also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then, while it may not be possible to destroy all records of the focus group discussion of which I was part, I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I permit the researcher to use the photographs that are part of this project and/or any drawings from them and any other reproductions or adaptations from them, either complete or in part, alone or in conjunction with any wording and/or drawings solely and exclusively for (a) the researcher's portfolio;
- I agree that a representative from Care International and/or World Vision Vanuatu will be present during the focus group. Please circle: Yes No
- I agree that the data collected from the focus groups will be shared with Care International and World Vision Vanuatu. Please circle: Yes No
- I understand that the photographs will be used for academic purposes only and will not be published in any form outside of this project without my written permission.
- I understand that any copyright material created by the photographic sessions is deemed to be owned by the researcher and that I do not own copyright of any of the photographs.
- I agree to take part in this research.

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):
.....
.....
.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 21 May 2018, AUTEK Reference number 18/59.

Example of consent form given to community focus group participants: Bislama version



Consent mo rilis fom

Taetol blo projek: **Investigesen long sasteinabiliti blong Komuniti Disasta mo Klaemet Jenj Komiti long Vanuatu**

Supavisa blo projek: **Loic Le De**

Man blo risej: **Jackie Bubb**

- Mi bin rid mo andastanem gud informasen oli givim abaot risej projek ia long informasen pepa we deit blo hem: 12 05 2009.
- Mi bin gat wan janis blo askem kwistin mo blo gat ansa long ol kwistin ia.
- Mi save se identity blong olgeta we oli tek pat mo ol storian long grup hemi secret mo mi agri blo kipim informasen ia i secret.
- Mi save se bae oli raetem not long taem blong grup fokas mo lo taem oli rekodem toktok mo team oli raetem dawn ol toktok long rikod. Foto bae oli tekem long grup fokas ol toktok we oli usum.
- Mi save se taem yu tek pat long stadi ia oli no pem. So yu save kamaot long stadi ia long eni taem I no gat problem long eniwe.
- Mi save se sapos mi wantem kamaoit long stadi hemi no posibol blo sakem ol rekod blo grup fokas diskasen we mi pat long hem. Bae oli givim long mi blong jus ita blong ol tingting blong mi oli karamaot o oli go hed blo usum. Taem oli producem finis bae had blo oli karamaot infromasen blong mi.
- Mi save se wan man blo Care International mo World Vision Vanuatu bae oli tek pat ol storian long grup.
Plis jusum wan: Yes No
- Mi save se ol rikod long grup fokas bae oli sharem wedem Care International mo Word Vision Vanuatu.
Plis jusum wan: Yes No
- Mi allowem riseja blong usum photograph/drawing olsem part blong projek blong hem o eni narafala wai we hemi save takem inforamsen tru long hem blong producem projec buk long hem.
- Mi andastan mo save se ol foto bai oli usum long saed blo skul nomo mo bae I no blo salem long public long eni we aotsaed long projek we mi no givim raet long hem o signem.
- Mi save se eni copyright (meanim se man we I mekem wok hemi gat raet long hem) ol samting we oli makem taem blo foto ia man blo risij I gat raet long hem mo mi no gat raet long copyright ia long eni foto we oli takem.
- Mi agri blo tek pak long risej ia.

Patisipen sign:

Nem blo patisipen:

Contact blo patisipen :

.....
.....
.....

Deit:

Approved by the Auckland University of Technology Ethics Committee on 21 May 2018, AUTEK Reference number 18/59.

Appendix Two: Participant Information Sheets [PIS]

Example of PIS given to key informant participants: English

AUT

TE WĀNANGA ARONUI
O TAMAKI MAKĀU RAU

Participant Information Sheet

Date Information Sheet Produced:
12 May 2018

Project Title
Investigating the sustainability of the Community Disaster and Climate Change committees in Vanuatu

What is the purpose of this research?
Community based disaster risk reduction (DRR) is a process in which communities are actively involved in recognising, assessing and mitigating against risks. In Vanuatu the National Disaster Management Office with support of non-government organisations and Red Cross are using CDCCCs to approach DRR and disaster response at the community level. The goal of this study is to find ways to strengthen and support localised DRR and climate change activities, which will have benefits on how the wider community prepares, responds, and recovers from disasters.

Who is the researcher?
The researcher's name is Jackie Bubb. Jackie is working with Volunteer Services Abroad (VSA) volunteer working with World Vision Vanuatu (WVV) assisting with their Disaster Risk Reduction projects. She has lived in Vanuatu for over a year. This study relates to the work she is doing with WVV and Care International.

How was I identified and why am I being invited to participate in this research?
You have been invited to participate in this research because you work in an agency that supports the development and/or maintenance of CDCCCs.

How do I agree to participate in this research?
Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

You will be requested to complete a consent form, and this will be provided by the researcher.

What will happen in this research?
The researcher will undertake a semi-structured questionnaire with you to discuss the sustainability of the CDCCC approach. The discussion will include questioning around the experience you and your agency have had with CDCCCs, and your opinion on the strengths, needs opportunities, and challenges of the current CDCCC programme.

What are the benefits?
The researcher will use the information recorded to better understand how CDCCCs work in Vanuatu. I want to consider to what extent the National Disaster Management Office, Provincial Disaster Office and the agencies helping set up CDCCCs understand how CDCCCs can be sustainable and viable. The researcher will use the information to write a thesis which will allow her to attain a Master of Philosophy qualification.

As a participant the research might benefit you as you will have the opportunity to voice your opinion on how outside agencies can best support disaster risk reduction and response related activities, and the CDCCCs. The goal of this study is to find ways to strengthen and support localised DRR and climate change activities, which will have benefits on how the wider community prepares, responds, and recovers from disasters.

23 November 2020 page 1 of 2 This version was edited in July 2016

How will my privacy be protected?

The information you share in this research will be recorded. The study outcomes will not identify you personally in any publications made from this study.

What are the costs of participating in the research?

The discussion will take approximately one hour.

What opportunity do I have to consider this invitation?

You will be given two weeks notification before the research takes place. You will be reminded of this 2-3 days before the study commences. You can choose to accept or decline this invitation at any time.

Will I receive feedback on the results of this research?

If you would like to receive feedback on this research this can be arranged through the researcher by using the contact provided.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, *Loic Le De*, loic.le.de@aut.ac.nz, +64 9 921 9999 ext 7499.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, + 64 9 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Jackie Bubb, World Vision Vanuatu, Telephone: + 678 739 4626

Project Supervisor Contact Details:

. *Loic Le De*: loic.le.de@aut.ac.nz, +64 9 921 9999 ext 7499

Approved by the Auckland University of Technology Ethics Committee on 21 May 2018, AUTEK Reference number 18/59.

Example of PIS given to focus group participants: Bislama



Patisipant informeisen pepa

Deit informeisen pepa produs:

12 May 2018

Projek taetol

Investigesen long sasteinabiliti blong Komuiti Disasta mo Klaemet Jenj Komiti long Vanuatu

Wanem pepos blong risej ia?

Komuniti beis disasta risk ridaksen (DRR) hemi wan proses we ol komunitis oli aktivli involf blong andastandam ol risk blong olgeta. Lo Vanuatu Naesenal Disasta Manejment Ofis wetem sapot blong non-kavman okanaesens mo Red Kros oli usim Komuiti Disasta mo Klaemet Jenj Komiti (CDCCCs) blo aproj DRR mo dissata resons long komuniti level. Care International, World Vision Vanuatu (WVV) mo riseja, Jackie Bubb oli kam tugeta blong lukluk long ol weis blong trenem CDCCCs long komuniti olsem blong yufala. From tru long long stadi ia bambae oli makem wan buk wedem AUT.

Patisipans: Olsem wan patisipan stadi ia bambae hemi helpum yu blong yu save how naio komuniti blong yu hemi save takem suport blong ol narafala anegencis tru long disasta risk. Yumi save lanem fulap mor informasen blong maintainem CDCCC.

Riseja: riseja bambae hemi save lukum mo opotnitis ko kasem sastenabol CDCCCs. Hemi save provaedem opotniti blong lern bambae makem best praktis.

Ol nara Vanuatu komuniti: Gol blong stadi ia i blong faenem weis blong strengtenem mo sapotem ol komuniti DRR mo klaemet jeins. Aktivitis we bambae benefit blong hem i go kasem ol narafala komunitis blong Vanuatu long how blong pripea, rispons mo rikava long taem blong wan disasta.

Hao oli identifae mi mo from wanem oli invaetem mi blong patisipeit long risej ia?

Oli askaem yu blong patisipeit long risej ia from yu stap long wan long ol komunitis wea WVV o Care International oli setemap CDCCCs.

Hao bae mi agri long patisipeit long risej ia?

Patisipeisen blong yu long risej ia i voluntary (hemi jois blong yu) mo wheta yu jius o not blong patisipeit bai nita gud o no gud long yu. Yu save witdro long stadi long eni taem. Sipos tu jius blong witdro long stadi bae oli ofarem joes bitwin eni data we hemi blong yu oli save takem out o oli save continu blong usum long stadi. Haueva wans o faedings i kamaout rimuval blong data bai no save posibol.

Bae oli rikwestem yu blong raetem wan consent form bae oli provaedem ita riseja o wan staf memba blong Care International o WVV.

Wanem bae i hapen long risej ia?

I kat tu pats long risej ia. Yu save jus blong patisipeit long aniwani:

1) Grup fokas. Wetem nara memba blo komuniti blo yu bambae oli askem yu blong participat long sam aktiviti we blo faenemaot eksperians wetem CDCCC blo yu. Hemia bae tekem klosap tu- tri haoa.

2) Wan kwistin. Wan wok man blo WVV o Care International bae i askem yu sam kwistin abaot work blong yu about CDCCCs long komuniti blong yu mo work blong yu long how yu prepar, respon mo recova blong taem blong wan disasta. Bae tekem kolosap 30 minit.

Wanem nao ol benefit?

Man blo risej bae i usum informasen blong save gud olsem wanem CDCCCs hemi wok lo Vanuatu. Resija hemi wantem save mo how Nasonal Disasta Mangejmen Ofis, Provinsel Disasta Ofis mo agencies oli help blong setemap ol CDCCCs mo how ol CDCCCs oli save maintainum ol work blong olgeta.

Olsem wanem privacy blo mi i sef?

Informasen yu serem long risej bae oli rikodem mo mo bae oli kipim hemi secret mo bae mifala I no talem nem blo yu lo eni samting we bae naraman save luk. Oli mekem long stadi ia meanim se man i no save talemaot sapos hemi no karem raet blo talem. Taem man blo risej I no save patispan I mean se everi nara samting hemi secret.

Samting we I tekemap taem blo u long risej hemi wanem?

Grup fokas bae i tekem kolosap haf dei. Kwistin we oli raetem daon i tekem teti minit blong ansa. I no gat eni payment long wan participant.

Wanem janis mi gat blo tingbaot lo aem oli askem mi blo joen?

Oli givim yu 2 wiks notis bifo risej I tekem ples. Bae mifala letem yu save tu – tri dei bifo stadi i stat. Yu save jusum blo kam or no wantem kam lo eni taem oli invatem yu.

Bae mi risivim resat blo risej ia taem i finis?

Bambae riseja hemi kivim tu week notice before stadi hemi hapan. Bambae mifala reminum yu long invitasen ia tu o three dais befor stadi hemi start. Sapos yu no hapi blong invitasen yu save refusm lo taem ia.

Wanem mi save makem sipos mi gat wan tingting long stadi ia?

Sapos yu gat eni concern long eni participant abaot stadi ia yu save contactem:
Loic Le De, loic.le.de@aut.ac.nz, +64 9 921 9999 ext 7499.

Sapos yu gat eni concern long stadi ia yu save contactem:
Executive Secretary of AUTEK, Kate O'Connor, *ethics@aut.ac.nz*, + 64 9 921 9999 ext 6038.

Hu naio mi save contactum suppose mi gat mo kwestion abaot stadi ia?

Researcher Contact Details:

Jackie Bubb, World Vision Vanuatu, Telephone: + 678 739 4626

Project Supervisor Contact Details:

. *Loic Le De: loic.le.de@aut.ac.nz, +64 9 921 9999 ext 7499*

Approved by the Auckland University of Technology Ethics Committee on 21 May 2018, AUTEK Reference number 18/59.

Appendix Three: Ethics Approval from the National Advisory Board of Vanuatu



REPUBLIC OF VANUATU
NATIONAL ADVISORY BOARD
ON CLIMATE CHANGE AND DISASTER RISK REDUCTION

C/O Corporate Services Unit
Ministry of Climate Change and Natural Disasters

Private Mail Bag 9074, Port Vila
Telephone: (678) 22068. Email: nab@meteo.gov.vu; Web: www.nab.vu



Ref: PV/MCCA/PROJ-NAB/CDCCCRes.

June 28 2018

Ms Jacki Bubb
World Vision International
Port Vila
Email: Jacki_Bubb@wvi.org

Dear Ms Bubb

Dear Mr Savua

RE: National Advisory Board on Climate Change and Disaster Risk Reduction Official Endorsement for the CDCCC Model Sustainability Research

This letter serves to inform you that the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB) has reviewed the profile form for the **CDCCC Model Sustainability Research**, and has *endorsed* the Research.

The NAB appreciates the cooperation demonstrated thus far in following due process.

Should you seek further clarification or assistance on the recommendation, please contact the Interim NAB Secretariat, Mike Waiwai at VOIP or email mwaiwai@vanuatu.gov.vu

Sincerely

Jesse Benjamin
Chairman National Advisory Board on CCDRR
Director General, Ministry of Climate Change

