Pursuing Self-determined Responses to Climate Change in the Cook Islands:

Exploring the Interface between Government Organisational Directive and Local Community Engagement with Climate Change Adaptation

by

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ABSTRACT

Small island communities are considered to be amongst the most 'at-risk' populations in the world to the impacts of climate change. Global, regional and national entities have framed the plight of Pacific communities through climate change discourses. This study contributes to an emerging line of inquiry that investigates how applying the concepts of 'vulnerability' and 'resilience' to frame communities might contribute to community empowerment, or marginalisation. Focused on the institutional setting of the 'Strengthening the Resilience of our Islands and our Communities to Climate Change Programme' (SRIC Programme), this thesis explores the engagement between government organisations of the Cook Islands and communities of Aitutaki to form adaptation responses to climate change.

Qualitative methodologies coupled with Pasifika methodologies provide a culturally responsive approach to the research. This approach accommodated local narratives and indigenous knowledges throughout the study. The findings from semi-structured interviews suggest that Cook Islands government organisations increasingly frame Aitutaki communities through the concept of 'resilience'. Interviews with community representatives suggest that Aitutaki communities use indigenous knowledges to make sense of changes in their local environment, without always understanding the science-based notions of climate change. Engagement approaches such as 'knowledge sharing', could offer a pathway to increasing community autonomy and confidence in climate change discussions, whilst also contributing to enhancing socio-ecological resilience. To maintain a 'critical' political ecology approach, governmentality theory was used to explain how power relations might be embedded in resilience discourse. Insight is offered into how the government-community relationship could enable 'technologies of government' as the SRIC Programme progresses. It is suggested that the social conditions of Aitutaki communities could pose sites of resistance to governmentality. Recently implemented, the SRIC Programme demonstrates potential for supporting self-determined responses to climate change and enhancing socio-ecological resilience in Aitutaki.

Key words: socio-ecological resilience; climate change; governmentality; Cook Islands.

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Figure 1. (Opposite) *Aerial view of Aitutaki.* Source: Google Earth Images.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ACIA	Arctic Climate Impact Assessment
CCA	Climate change adaptation
CCCI	Climate Change Cook Islands
CIBM	Cook Island Bureau of Meteorology
DRM	Disaster risk management
EMCI	Emergency Management Cook Islands
IPCC	Intergovernmental Panel on Climate Change
JNAP	Joint National Action Plan
NGO	Non-government organisation
NSDP	National Sustainable Development Plan
OPM	Office of the Prime Minister
SRIC	Strengthening the Resilience of our Islands and our Communities to Climate Change
UNDP	United Nations Development Programme
UNFCCC	United National Framework Convention on Climate Change

CHAPTER I

Introduction

Climate change has been described as the greatest threat facing the Pacific region in the 21st century (Mateus, 2014; Bender, 2009). Small island communities, including the Cook Islands in the Pacific Ocean, are considered to be amongst the most 'at-risk' populations in the world to the impacts of climate change (IPCC, 2007). One purpose of global treaties and national directives is to prepare these communities for climate change, predominantly through adaptation measures (National Environmental Service, 2007). Despite insistently voiced pleas from the Pacific region, global emissions continue to increase. Pacific Island nations feel ignored and marginalised in the global debate (Taylor, 2009). An emerging line of inquiry investigates whether particular discourses relating to climate change, could covertly contribute to fostering power relationships that have the potential to marginalise local communities (Joseph, 2013).

Global, regional and national entities frame the plight of Pacific communities through a particular climate change discourse (Rutland & Aylett, 2008). The concepts of 'vulnerability' and 'resilience' are twenty first century "buzzwords", prevalent in climate change adaptation discussions and are "permeating scientific and popular debates" (Brown, 2014: 107). These concepts have drawn academic interest in how they have been employed to frame local indigenous communities in climate change discussions. Scholars hold varying perceptions on the extent that these frames could contribute towards empowering or marginalising communities, as they prepare for the impacts of climate change (Haalboom & Natcher, 2012; Martello, 2008). Martello (2008), Liverman (1990) and Füssel (2007) highlight how vulnerability discourse has contributed to building constructive frames for indigenous communities. However, Barnett and Campbell (2010) suggest that vulnerability discourse is deeply entwined with issues of power. Through postcolonial literature, Pasifika scholars have paralleled this view, criticising the international community for framing the region as vulnerable and powerless (Teaiwa 2005, Teaiwa, 2006; Hauʻofa, 2008).

Recently, 'resilience' has emerged as a more empowering word for framing communities' aspirations and engagement with climate change discussions (Adger, 2000). Literature

records climate change as a phenomenon of the natural environment, that has implications for the social environment. Therefore, it is apt to consider social and ecological resilience together, as 'socio-ecological resilience' (Adger, 2000; Welsh, 2014). 'Resilience' has recently enjoyed discursive dominance in academia and amongst policy makers. There is however, an emerging body of literature claiming that resilience has been under-theorised and in some cases has excluded the social, political and cultural dynamics of socio-ecological systems (Brown, 2014; Christmann et al., 2012; Campbell & Barnett, 2010). Anderies et al. (2004) and Ostrom & Janssen (2005) argue the importance of recognising institutions as central connectors of social and ecological resilience. The small population of most Pacific nations makes the relationship between a government and its citizens particularly powerful in influencing the extent to which socio-ecological resilience is enhanced (Goldstein et al., 2014). Moreover, there is an emerging line of inquiry that calls for greater inclusion of indigenous knowledges, local understandings of the environment and worldviews into climate change discussions (McNaught et al., 2014; Goldstein et al., 2014; Bohensky & Maru, 2011). The literature calls for locally specific research to investigate. Accordingly, this study examines the relationship between government organisations and communities in a particular island of the Cook Islands, to probe the factors that contribute to enhancing socio-ecological resilience, in preparation for climate change.

1.1 Locally specific research

The Cook Islands is a Pacific nation facing environmental challenges, as the impacts of climate change develop. These impacts result from extreme events including tropical cyclones, storm surges, droughts, and floods, which are likely to increase in frequency, intensity and duration (SRIC Programme Proposal, 2014: 6). The literature and policy documents specific to the Cook Islands, demonstrate that development and social change have already placed pressures on sensitive environmental systems (Joint National Action Plan, 2012; National Environmental Service, 2007). Biophysical science literature suggests that the impacts of climate change are likely to exacerbate this stress (National Environmental Service, 2007; Asian Development Bank, 2014). Nonetheless, Cook Islands communities are renowned for their capacity for survival in the face of challenging

environments. This is evidenced by the development of indigenous knowledge systems over thousands of years (SRIC Programme Proposal, 2014; McNaught et al. 2014).

Aitutaki is a Pa Enua (outer island) of the Cook Islands and is home to communities which are at risk from the impacts of climate change. The government has developed adaptation strategies to assist Aitutaki communities in preparation for these impacts (National Environmental Service, 2007). Research focused on Aitutaki provides opportunity to discern how government organisations and Aitutaki communities are engaging with climate change issues.

1.2 Institutional context

Preliminary observation of the institutional and policy context for climate change in the Cook Islands has enabled focus on a specific government programme. The "Strengthening the Resilience of our Islands and our Communities to Climate Change Programme" (SRIC Programme), was chosen to refine the scope of this research. The Programme encapsulates a decisive government approach to engage with local communities on issues of climate change. It takes an integrated approach to climate change adaptation (CCA) and disaster risk management (DRM). It aims to "strengthen the ability of all Cook Island communities and the public service to make informed decisions and to manage anticipated climate change driven pressures (including extreme events) in a proactive, integrated and strategic manner" (SRIC Programme proposal, 2014: 1). Concentrating on the SRIC Programme brings to focus the intention of government engagement with Aitutaki communities. Accordingly it establishes the 'institutional' scope of this research.

1.3 Research aim and questions

In light of the literature and policy context (established in *Chapter II* and *Chapter III*), this study sets forth to analyse whether Cook Islands government organisations are engaging with Aitutaki communities in a manner that supports local responses for climate change and that contributes to enhancing the resilience of Aitutaki's socio-ecological system.
Two principal questions have guided the investigation in this study:

1. How are government organisations working with Aitutaki communities on climate change planning issues?

This question seeks to determine how government organisations are framing Aitutaki communities in relation to climate change. It explores the way government organisations perceive and apply the concepts of 'vulnerability' and 'resilience'. Furthermore, the study explores the role of government organisations in the climate change planning process. It considers how policy directives shape the relationship between government organisations and local communities. Focus on the SRIC Programme will enable an understanding of the institutional approach. Recognition will be given to possible external factors that may influence the approach that government organisations adopt.

2. Where community representatives perceive climate change to be a threat, how do they envisage that their communities will manage the impacts?

This question is two-fold. First it endeavours to elicit how communities perceive climate change. It seeks to determine whether community representatives in Aitutaki recognise the threat of climate change locally. Furthermore it examines how, if at all, community representatives want to engage with government organisations on issues of climate change.

This study investigates these questions by taking an overarching political ecology approach. Political ecology is the study of relationships between the ecological, social, economic and political aspects of an environmental issue (Forsyth, 2003; Robbins, 2012). A 'critical' political ecology approach enables focus on the significance of linkages between knowledge and power when considering how government organisations engage with Aitutaki communities on issues of climate change (Barnett & Campbell, 2010; Forsyth, 2003).

Socio-ecological resilience is posited as the concept guiding this research. Insight from postcolonial science will provide a critical lens to examine how knowledge can be considered as discourse. The Foucauldian theory of governmentality is explored for its appropriateness as a critical frame through which to analyse resilience, in the context of the relationship between government organisations and Aitutaki communities. Scholarship on multi-level governance is also proffered. This aims to demonstrate cognisance of external influences, above the government-community relationship, that contribute to the wider power relations and political ecology of the research setting.

The research has been designed to establish a culturally responsive methodological approach that employs largely qualitative methods and includes aspects of selected Pasifika methodologies. Semi-structured interviews were conducted with employees from Cook Islands government organisations, and with community representatives on Aitutaki. A qualitative approach for interpreting and presenting the research was taken, drawing on direct quotes from the interview transcripts to retain the integrity of the information. A reflexive research approach, which demonstrated consideration of my postionality as the researcher, provided opportunities for reflection and evaluation throughout the research process.

It is important to acknowledge that the findings of this research are specific to Aitutaki. They are not representative of the other Pa Enua, Rarotonga, or of the Cook Islands as a nation and cannot be generalised. Insights offered however, may be useful for similar research elsewhere in the Cook Islands.

1.4 Outline of chapters

This thesis is presented in seven chapters. Following this introduction, subsequent chapters comprise: an outline of the geographic and institutional context of this research; a review of the existing literature; an outline of the research design; a presentation of findings from the field; a discussion of these findings in respect of existing scholarship; and concluding remarks.

Chapter II provides an overview of the geographic and institutional setting, introducing the Cook Islands and Aitutaki as the location of study. The governance framework, including relevant policies, programmes and government organisations are outlined. Key components of the SRIC Programme are examined, which more directly establish the institutional scope of this research.

Chapter III presents a review of the literature. It introduces the relevant texts, theoretical background and approach that contribute to framing this thesis. Identified first are findings on the key biophysical impacts caused by climate change that are likely to affect the Cook Islands. Reports from the Intergovernmental Panel on Climate Change (IPCC) are drawn

on, together with information retrieved through Cook Islands environmental reporting agencies. The main schools of thought pertaining to the concepts of 'vulnerability' and 'resilience' are presented, including a critique of each. Employment of a resilience framework that encapsulates the socio-ecological system is justified.

Foucault's governmentality theory is introduced as a possible way to analyse the relationship between government organisations and Aitutaki communities in the context of building socio-ecological resilience for climate change. The literature argues that through governmentality theory, the dispersal of power and knowledge can be critiqued. This is significant in respect of climate change when multiple interpretations of reality exist, for example between indigenous and western-scientific understandings of climate change. It provides a lens through which the critique of socio-ecological resilience can be explored. This chapter concludes by identifying the gaps in the existing literature that justify the direction of this study.

Chapter IV outlines the tailored methodological approach employed in this research. It was designed using qualitative-based methodologies integrated with key aspects of Pasifika methodologies. Working within the notion of 'teu le va' recognises the importance of relationships in a research context. Aspects of Pasifika research methods are introduced, in particular Jean Mitaera's 'researcher-first paradigm'. The principles and values drawn from Pasifika methodologies are coupled with best practice qualitative methods, to establish a distinctive, culturally responsive research approach. This attempts to privilege the local narratives and indigenous knowledges revealed throughout the research process. It recognises that the Pacific indigenous reference is a "potential treasure trove" (Hviding, 2003: 52). Hence, this research focuses on how indigenous knowledges "might have continuing energy and force in the present" (Mila-Schaaf, 2008: 27).

Study participants were selected purposefully from Cook Islands government organisations and from Aitutaki communities. Semi-structured interviews constituted the primary method for collecting information to capture the diverse perspectives of participants. Further factors considered in the design and conduct of this study include the positionality of the researcher, ethical considerations, and reflexivity.

Chapter V presents the findings of fieldwork in the Cook Islands. It examines how government organisations frame Aitutaki communities in respect of climate change. Further, it presents findings of community perceptions of climate change, in which attention is given to indigenous knowledges and local understandings of the environment. Findings identify how government organisations are engaging with Aitutaki communities through the SRIC Programme. Notions of 'ownership' and 'responsibility', in respect of resilience building, are explored. Within these findings, cognisance is shown to the wider forces, or power relationships, that may influence approaches to climate change adaptation in Aitutaki.

Chapter VI discusses fieldwork findings in relation to the reviewed literature. The notion of 'knowledge sharing' is introduced. This notion refers to a way in which government organisations are engaging with communities to support local perceptions of the environment and change, whilst also contributing to enhancing socio-ecological resilience. Insight from socio-ecological resilience scholarship and postcolonial science literature is drawn from. Governmentality theory is then explored for its appropriateness as a critique of 'resilience' in the context of the relationship between government organisations and Aitutaki communities. Utilising reflective processes, the potential limitations of this study are identified.

Chapter VII presents conclusions that respond to the primary research questions. Conclusions contribute to determining whether or how government organisations are engaging with Aitutaki communities to support local responses for climate change and to enhance socio-ecological resilience. Finally, in light of the research findings, pathways for future research are offered.

CHAPTER II

Geographic and Institutional Context

2.1 Geographic context

This research is located in the Cook Islands (Figure 2), and focuses on communities in the island of Aitutaki (Figure 3). The Cook Islands comprises 15 islands dispersed over 2 million square kilometres of the Pacific Ocean. Positioned at the centre of the Pacific triangle, it is located east of Samoa, Tonga and Fiji, and 3010km northeast of New Zealand. The Cook Islands became a British protectorate in 1888, with administrative control granted to New Zealand in 1901. In 1965 the country became self-governing, in free association with New Zealand. Rarotonga, the capital island, holds 20,000 people, or 70% of the country's population. The remainder of the population live in the 11 inhabited Pa Enua that are divided between the Southern Group and the remote Northern Group (SRIC Programme Proposal, 2014).

Aitutaki, with 2000 residents, is located in the Southern Group and is the second most populated island, located 277km from Rarotonga. Aitutaki is a low volcanic island of 18.1km^2 and has a 43km long encompassing reef with motu (islets) scattered within the lagoon. Aitutaki has an island government with a three-year election cycle. It comprises a mayor and eight village representatives from the constituent villages: Tautu, Vaipae, Vaipeka, Amuri, Ureia, Arutanga, Reureu, and Nikaupara. Three ariki (traditional leaders) and three members of parliament are also members of the island government (SRIC Programme proposal, 2014).

It is important to understand that Aitutaki is just one of the Cook Islands' distinctive Pa Enua. Each has its own distinguishing histories, dialects, traditions, practices and indigenous knowledge systems. Collectively the Pa Enua and Rarotonga constitute a modern-day nation.

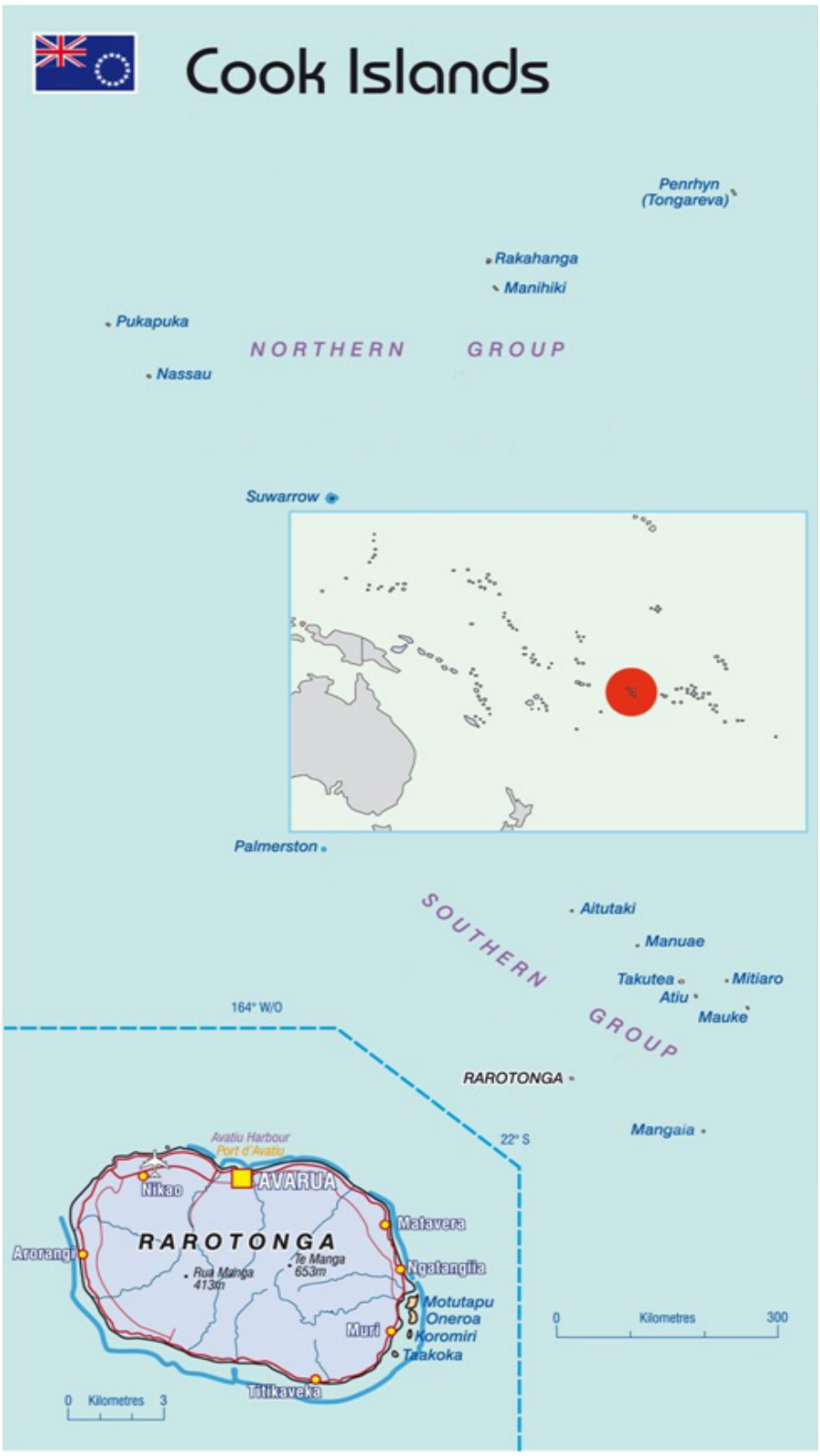

Figure 2. *Map of the Cook Islands.* (Source: Pacific Climate Change Portal, 2014).

Figure 3. *Map of Aitutaki, Cook Islands.* (Source: Aitutakiapere, 2014).

2.2 Overarching national policy framework

The national vision – Te Kaveinga Nui – of the Cook Islands is "to enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment" (National Sustainable Development Plan, 2011: 6). The national vision is articulated in the National Sustainable Development Plan (NSDP). This is the key policy document that outlines the national priorities and strategies of the Cook Islands. All government organisations, including island governments, are required to align all planning to these strategies. The following goals of the NSDP are particularly relevant to climate change:

- Goal 5: Resilient and sustainable communities – "A Cook Islands where our people are resilient to disasters and climate change to achieve sustainable livelihoods."
- Goal 6: Environment for living – "A Cook Islands where we sustain our ecosystems and use our natural resources efficiently to achieve sustainable livelihoods."
- Goal 7: Good Governance – "A Cook Islands that thrives on good governance principles." (NSDP, 2011: 15)

The NSDP is aligned with the Cook Islands' regional and international commitments, including the Pacific Plan, Millennium Development Goals, Mauritius Strategy; as well as multi-lateral environmental agreements such as the United Nations Framework Convention on Climate Change (1992) (UNFCCC) and the Convention on Biological Diversity (1993). In 2011, the Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation (JNAP) 2011-2015 was created, in partnership with the Australian Government. This document aimed to bring together the growing number of organisations and policy programmes engaged with climate change. The JNAP is considered to be a "key national mechanism" for merging the two programmes of national priority, the Climate Change Adaptation (CCA) strategy and the Disaster Risk Management (DRM) approach (JNAP, 2012: 4). CCA is the strategy that sets the priorities in preparation for climate change, while the DRM approach provides strategies for reducing the impacts of environmental disasters in the Cook Islands.

The JNAP aims to raise awareness of the risks associated with climate change by instigating multi-lateral dialogue including working with local communities to "build ownership through consultation" (JNAP, 2012). The JNAP sets out to:

> promote strong cooperation, coordination and collaboration between stakeholders and to ensure that the government and our people, with the assistance of the international community, do everything we can to safeguard our future by reducing and managing our vulnerabilities as far as humanly possible (JNAP, 2012: 18).

Climate Change Cook Islands (CCCI) is the climate change office established under the Office of the Prime Minister (OPM) to facilitate and implement the JNAP. CCCI is charged with the responsibility to implement the Kaveinga Tapapa: Climate and Disaster Compatible Policy 2013-2016. This policy "captures the essence of Te Kaveinga Nui"[1] and serves to connect with the strategies of the NSDP (Kaveinga Tapapa, 2013: 5). The policy has three strategic objectives: climate and disaster resilient development, low carbon development, and an enabling environment. The following Kaveinga Tapapa strategies are relevant to the scope of this research:

- "Climate and disaster resilient development (adaptation and disaster mitigation linked to development)
- Implement climate change and disaster risk assessment and management measures that strengthen infrastructure and safeguard essential services, natural ecosystems, economic development and livelihood systems in key sectors.
- Access and build bodies of knowledge that research and promote traditional knowledge and coping mechanisms alongside scientific investigations and evidence to drive decision-making and actions.
- Bolster the conservation and management of biodiversity and ecosystems through integrated holistic approaches" (Kaveinga Tapapa, 2013: 7-9).

The "enabling environment" strategic objective of Kaveinga Tapapa is also relevant. This objective aims to ensure "continuous climate and disaster financing from government" as well as securing more funding from donor partners (Kaveinga Tapapa, 2013: 9). It aims to "build the capacity of people and systems" with a focus on development opportunities

[1] The national vision of the Cook Islands.

such as training and education (Kaveinga Tapapa, 2013: 9). Additionally this objective sets out to strengthen governance and management arrangements for climate and disaster resilient development (Kaveinga Tapapa, 2013).

2.3 The SRIC Programme

An approach entitled "Strengthening the Resilience of our Islands and our Communities to Climate Change Programme" (SRIC Programme) was proposed in 2011 by the Cook Islands government. It was granted financial assistance by the Adaptation Fund administered by the UNFCCC. The SRIC Programme functions across national, sectoral and island levels of governance to support the implementation of the JNAP and Kaveinga Tapapa. Figure 4 illustrates the institutional context of the Programme, implemented through the climate change co-ordination unit (Climate Change Cook Islands, CCCI) and the emergency management unit (Emergency Management Cook Islands, EMCI). This figure illustrates how CCCI and EMCI liaise directly with the Aitutaki Island Government and the Aitutaki Focal Point. The Island Government and the Focal Point can be thought of as intermediary entities that interact with communities to support the implementation of the SRIC Programme (SRIC Programme Proposal, 2014). Significantly the Climate Change Country Team, included in Figure 4 comprises key government personnel and represents the interests of the Cook Islands in regional and global climate change discussions.

While the Aitutaki Island Government is the lead authority in decision-making, the financial sign-off for island development plans remains with central government. Therefore close interaction between central and local government organisations on initiatives like the SRIC Programme is important. The local island government plays an important role in supporting the SRIC Programme management with implementation of the Programme. This involves locally relevant decision-making on CCA or DRM, providing administrative support for implementing projects and facilitating the organisation of community meetings. The Aitutaki Focal Point is unique to the SRIC Programme and consists of one appointed individual from the community. The skill base of the Focal Point assists Aitutaki communities to create their own initiatives for CCA or DRM and provides liaison with the SRIC Programme management (SRIC Programme Proposal, 2014).

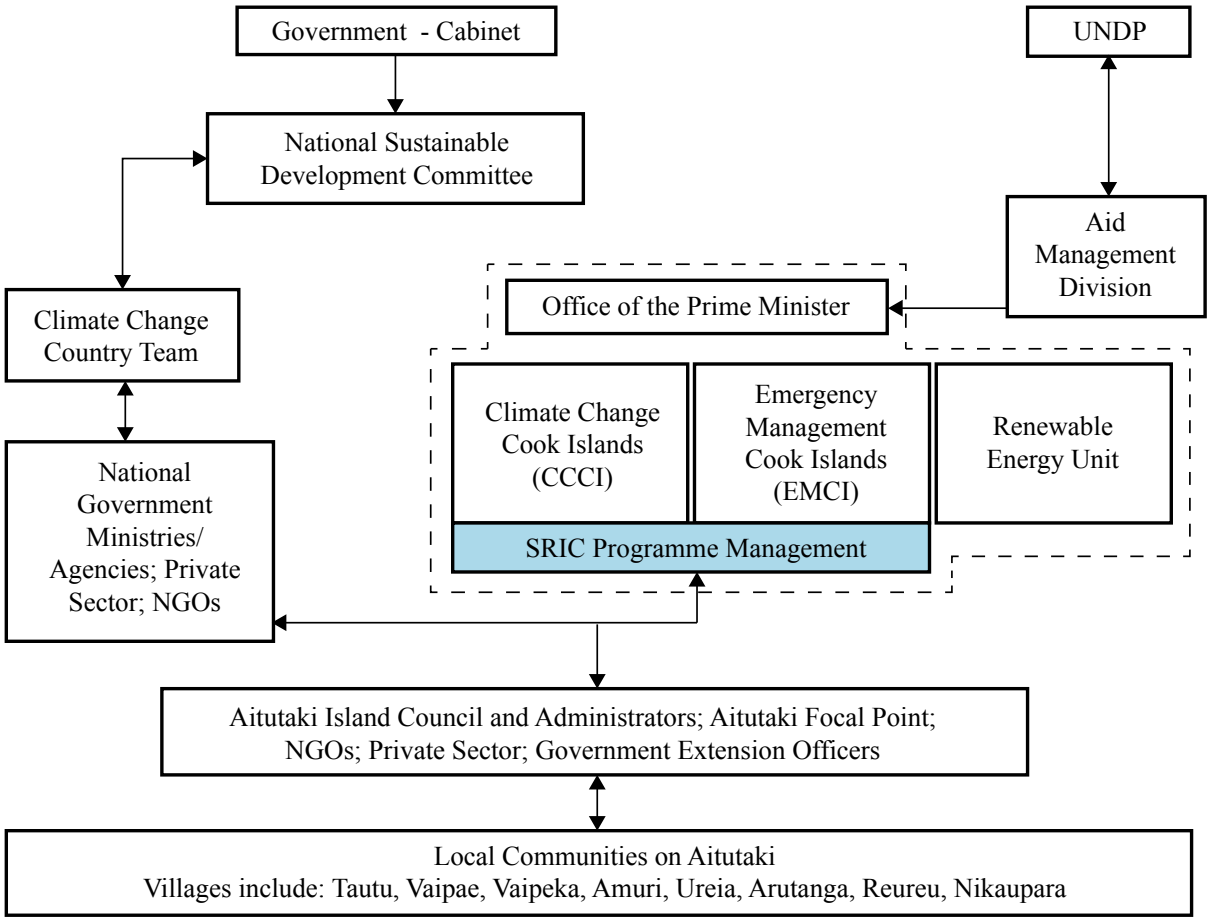

Figure 4. *National Institutional Arrangements for Programme Implementation* (Adapted from SRIC Programme Proposal, 2014: 60).

The objective of the SRIC Programme is to "strengthen the ability of all Cook Islands' communities and the public service, to make informed decisions and manage anticipated climate change driven pressures (including extreme events) in a proactive, integrated and strategic manner" (SRIC Programme proposal, 2014: 20). This objective is delivered through a three-pronged approach supported by a reflective knowledge management component. The Programme concentrates on introducing changes within Pa Enua communities to cope with the current impacts of climate change and prepare for future change (SRIC Programme proposal, 2014). Figure 5 illustrates the components of this Programme.

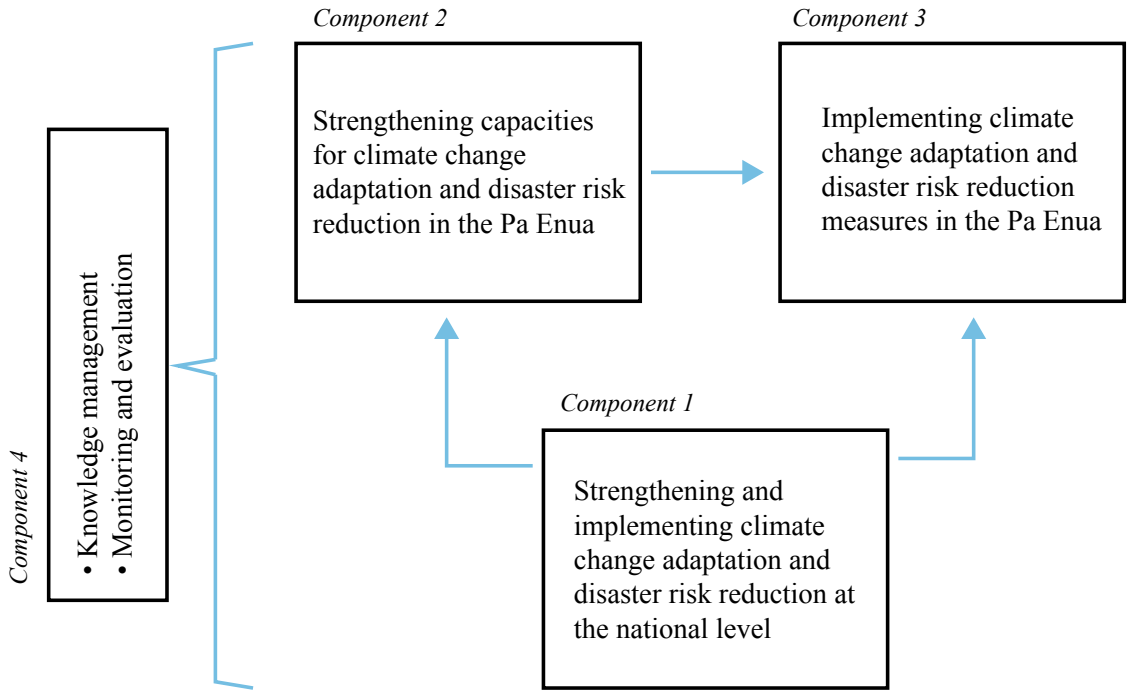

Figure 5. *Thematic Components of the SRIC Programme* (Adapted from: SRIC Programme proposal, 2014).

Component 1 aims to strengthen and implement CCA and DRM at the national level (SRIC Programme proposal, 2013: 25). It consists of enabling processes to build institutional capacity amongst government and organisational staff, to enhance policy to support CCA and DRM initiatives and to establish robust information collection, monitoring and reporting systems (SRIC Programme proposal, 2014). One aspect of this component focuses on capacity building amongst government officials and other key players to support "top-down, bottom-up and cross-sectoral linkages" (SRIC Programme proposal, 2014: 26).

Component 2 concentrates on capacity building within Pa Enua communities as well as building processes for CCA and DRM. Notably, this component includes the appointment of a SRIC Focal Point on each of the Pa Enua. Appointees undergo training to build capacity to administer the SRIC Programme and to lead and coordinate CCA and DRM approaches. Additionally, training initiatives target the Island Government representatives so that "they are conversant with climate risk assessment and management, and with adaptation planning" (SRIC Programme Proposal, 2014: 31).

Component 3 is identified as the principal focus, the essence of which is implementation. The intended outcome of the component aims for "enhanced resilience to climate change, including weather and climate-related disasters, for all 11 inhabited Pa Enua" (SRIC Programme proposal, 2014: 32). This component is directly contingent on the first and second components. It involves practical actions that will contribute to tangible outcomes for increasing the resilience of communities. It is intended that communities in the Pa Enua are supported with small grants to develop and implement CCA and DRM initiatives (SRIC Programme proposal, 2014).

Component 4 interacts with the previous components providing a reflective focus. The key outcome is to ensure that the "lessons learned and best practices improve the effectiveness of initiatives to enhance the resilience of Pa Enua and other vulnerable communities" (SRIC Programme proposal, 2014: 37). This evaluative component considers feedback from contributing government organisations and the communities directly engaged with the Programme.

This research primarily focuses on Component 3 and its priorities for local engagement. It examines the implementation of the SRIC Programme in Aitutaki communities. However reference to the other components provide supplementary context. Focusing on the SRIC Programme narrows the institutional focus to establish a more manageable scope for research.

2.4 Conclusion

This chapter has identified the geographic context and political structure of this study and the relevant national policy framework for climate change adaptation in the Cook Islands. It has described the key components of the SRIC Programme and its institutional setting. A context is established to analyse the approach taken in interactions between government organisations and Aitutaki communities. *Chapter III* presents the findings of the literature review. It identifies the gaps in the existing body of literature that provide the impetus for this research. It identifies the key concepts and theoretical frames employed to further focus this study.

CHAPTER III

Review of the Literature

3.1 Introduction

Climate change is complex and multi-faceted, with many arguing that it is the most pressing issue of our time (Hansen, 2009; Patz et al., 2007; McKibben, 2010; Ban, 2007; The World Bank, 2014). Located in the Pacific Ocean, the Cook Islands is a geographically diverse country that will experience major impacts of climate change including sea-level rise, coastal erosion, increased frequency of high intensity tropical cyclones, prolonged periods of drought and salt water inundation (Secretariat of the Pacific Regional Environmental Programme, 2012; National Environmental Service, 2007; Nurse et al. 1998). These effects will impact communities in a variety of ways, cutting across social, economic, environmental and cultural spheres.

As noted earlier, this thesis takes a 'critical' political ecology approach in exploring the relationship between Cook Islands' government organisations and Aitutaki communities with regard to planning and preparing for climate change. Political ecology is the study of relationships between the ecological, social, economic and political aspects of an environmental issue. It recognises that there are underlying power hierarchies at play. A 'critical' political ecology reveals "the hidden politics within supposedly neutral statements" about an environmental issue (Forsyth, 2003: 53). Critical political ecology literature identifies the importance of being observant toward how knowledge, such as science, is formed and dispersed (Forsyth, 2003). Forsyth argues that "supposedly neutral and unchallengeable environmental science may reflect the perspectives of particular groups" (2003: 76). Critical political ecologists assert that having an understanding of how science and knowledge is framed politically and socially is imperative to increasing the transparency of an environmental issue (Forsyth, 2003; Peet and Watts, 1996). Within the literature, there is a call for more locally specific research that identifies the political ecology of a particular environmental issue.

The literature review will take a political ecology approach to frame the study of the government organisation-Aitutaki community relationship by discussing the literature relevant to:

i. the dominant climate change science for the Pacific region and the Cook Islands. The literature relevant to the biophysical impacts of climate change is identified, attending to the predicted social and economic ramifications of these impacts;
ii. how the concepts of 'vulnerability' and 'resilience' are applied in climate change discourse, particularly considering some of the critiques of these concepts; and
iii. using governmentality theory to identify the power and politics at play in environmental governance and to determine how climate change knowledge is framed, disseminated, and even internalised by local communities.

This review will outline the topics that are comprehensively addressed in the literature and will identify the gaps that exist, which will guide the direction of this research.

3.2 Biophysical impacts of climate change in the Cook Islands

Many climate change studies have been undertaken in the Pacific, some with a specific focus on the Cook Islands. Considerable uncertainty remains, however, about exactly how climate change will manifest in this region (Campbell, 2010). Within the regionally specific literature, six key areas are commonly identified where climate change could have serious implications. These effects of climate change and their implications for environmental, social and economic security are outlined in Table 1.

The impacts of climate change pose a wide range of risks to ecosystems in the Cook Islands and the people who depend on them (Barnett & Campbell, 2010). Literature and policy documents specific to the Cook Islands widely recognise that development and social change have already placed pressure on sensitive environmental systems (JNAP, 2012; National Environmental Service, 2012). The impacts of climate change are likely to exacerbate these stresses (National Environmental Service, 2012; ADB, 2014). There are calls for adaptation strategies that address the way that Cook Islands communities engage

Main Effects	Implications
Sea level rise • Inundation • Coastal erosion • Storm surge intensification • Salt water intrusion	• Reduction of land security in coastal areas • Damage to coastal infrastructure, i.e. airports, roads, harbour • Impacts on livelihood security through loss of agricultural land and salination of soils, plants and water supplies • Loss of access to traditional livelihood and culture – loss of access to traditional fishing areas.
Increase in severe weather events • Increase in frequency of droughts, rainstorms and heat waves. • Increase of intensity of cyclones (i.e. more category 4/5 cyclones) • Increase in wind intensity between 5% and 10% by 2050.	• Increased incidence of water pollution and damage to water storage - affects habitat security and livelihood security as agriculture and food crops depend on reliable water source. • Increased incidence of loss of human life and injuries • Disruption of education and social services affecting already 'at-risk' groups like the disabled, youth and women • Increased costs for recovery, impacts to economy and reduced ability to attract foreign investment. • Increased internal migration.
Water resources • Rainfall uncertainty • Increased frequency and intensity of droughts • Reduced quantity and quality of water resources • Salination of water from sea level rise.	• Livelihood security could be impacted with the reduction of agricultural productivity and habitat security may be compromised by the spread of water-borne disease • Reduced tourism attractiveness and economic losses from productive sectors, food insecurity.
Coral reefs • Reef degradation as a result of ocean acidification and increased sea surface temperatures.	• Livelihood security is likely to be jeopardised by the damage to fisheries and other marine resources that are dependent on healthy coral reefs. Coral reefs are very likely to be damaged. Land security may be threatened as the destruction of reefs results in increased coastal exposure to storm surge and salt water intrusion.
Agriculture • Negative effects from a range of processes including temperature rise, reduced water availability, salination and exposure to tropical cyclones.	• Decreased agricultural productivity would threaten livelihood security.
Human health • Psychological stress and social disruption • Changing disease vectors such as malaria and dengue fever • Increased incidence of water borne diseases	• Effects on human health are likely to reduce the habitat security of island settlements. This could impact the willingness of people to continue to live in the Cook Islands.

Table 1. *The Main Effects of Climate Change on the Cook Islands and Implications for Community Security to 2050* (Source: Compiled from: Campbell, 2010; ADB, 2005; Pacific Climate Change Portal, 2014; UNESCO, 2014; UNDP, 2009; National Environmental Service, 2012; Mimura et al., 2007; Parakoti & Scott, 2002).

with the environment, in preparation for the impacts of climate change (National Environmental Service, 2012). According to the National Environmental Service (2012), in order to successfully develop and implement functional adaptation strategies, the critical information gaps and requirements for capacity building must be identified. This requires input and wide collaboration including the Cook Islands government, local communities, non-government organisations (NGOs) and global governance institutions.

The localised social, environmental and economic effects caused by the biophysical impacts of climate change drive the need for both an understanding of local conditions in government policy, and for local community engagement with climate change decision-making (da Silva et al. 2012). While the Cook Islands government is beginning to implement policy and processes that are inclusive of local communities, further evaluation is required of the effectiveness and extent of inclusiveness of these approaches. This study seeks to contribute research in this area.

3.3 Vulnerability

The previous section identified how climate change will cause a range of biophysical impacts in the Cook Islands, many of which will place pressure on existing environmental services. Local communities rely on these services, for livelihood and environmental, social and economic security. The literature identifies that Cook Islands communities are perceived to be 'vulnerable' to the impacts of climate change. The term 'vulnerability' is widely cited throughout climate change literature to describe the effects of changes to ecological and social systems. There are multiple schools of thought relating to how vulnerability is defined and applied, and the term has collected an array of connotations, both positive and negative (Füssel & Klein, 2006; Chapin et al., 2009; Turner et al., 2003; Füssel, 2007).

While vulnerability is a well-researched concept, there remains no universal definition when applying it to climate change (Barnett, 2001; Haalboom & Natcher, 2012). The literature commonly references the IPCC, which defines vulnerability in a climate change context as:

> The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity (IPCC, 2007: 883).

Attempts to quantify vulnerability within a socio-ecological context at a specific location have led to the development of vulnerability indices. These generate relative vulnerability scores for regions, countries or communities (Smit & Wandel, 2006: 282). Vulnerability assessments in the Pacific have tended to relate to the response of biophysical processes to sea-level rise; however, recent studies are beginning to consider the biophysical and social aspects of climate change together (Barnett, 2001; Hughes et al. 2003; Wheeler, 2011). In the Cook Islands, vulnerability and adaptation assessments have taken place throughout the Pa Enua to identify the impacts being experienced by the communities on these islands (Carruthers, 2002). The findings of these studies showed that coastal erosion, salt water inundation, droughts, and water availability are some of the climate change impacts already being experienced by local communities (Carruthers, 2002). While there is some inclusion of the social and economic impacts on local communities, these studies do not appear to have gone beyond face value assessments of vulnerability.

Some of the more critical literature situates the application of vulnerability in the context of political ecology, postcolonial science, and development theories. Postcolonial studies draw from postmodern schools of thought to analyse the politics of knowledge by identifying the functional relations of social and political powers that perpetuate colonialism and neo-colonialism (Childs & Williams, 1997). The postcolonial science literature articulates that scientific, technological and political benefits can develop from "grassroots organisation", "participatory action research" and "bottom up" design, as ways of giving end users a central voice in the design of scientific and technological projects (Harding, 2006: 119). The postcolonial science framework has emerged within environmental studies literature as a means to challenge how western scientific practices have historically separated "science" from social, cultural and political factors (Harding, 2006; Harding, 2001; Anderson, 2002; Forsyth, 2003; Figueroa & Harding, 2003). However, Scholars including philosopher

Sandra Harding have voiced discomfort with the idea of the "postcolonial" as it suggests an "achieved condition, a status free of colonial taint" (Anderson, 2009: 393). Harding states that "postcoloniality must be a desire, a dream, and a vision before it becomes a reality" (Harding, 1998: 326). Therefore, the term 'postcolonial' is used in this research with awareness of this critique.

Vulnerability assessments have been critiqued using a critical postcolonial science framework. Constructing vulnerability assessments through an external, western science framework potentially marginalises local peoples' perspectives and ignores their social or cultural "environmental imaginaries"[2] or framings (Peet & Watts, 1996: 263). Political ecology literature is also critical of vulnerability assessments that discount the unique social factors in an environment. Peet and Watts (1996) and Forsyth (2003) argue that ignoring the political ecology of a location can disengage local communities from the climate change conversation and perpetuate hegemonic science practices. It is suggested that more research is needed to determine how environmental imaginaries construct the way different individuals or societies "perceive and evaluate aspects of environmental change" (Forsyth, 2003; Peet & Watts, 1996: 37). Peet and Watts suggest employing 'critical' political ecology to identify "how far explanations of environmental problems reflect – or fail to reflect – the perspectives of different social groups" (1996: 83). Following this line of enquiry, Forsyth (2003), Haalboom and Natcher (2012) and Harding (2006) suggest that establishing local research and prioritising local voices could contribute to more inclusive planning outcomes for local communities, in the context of climate change. To follow this suggestion, the present study undertakes local research in the established geographic and institutional setting.

The critical literature on vulnerability also explores how labeling groups of people as 'vulnerable' can both empower and disempower communities (Kelly & Adger, 2000; Haalboom and Natcher 2012; Martello, 2008). Haalboom and Natcher consider vulnerability to be a "power-laden concept" and express concern that communities could internalise the negative connotations associated with vulnerability, detracting from their

[2] Peet and Watts describe an 'environmental imaginary' as something that each society carries; "a way of imagining nature, including visions of those forms of social and individual practice which are ethically proper and morally right with regard to nature" (1996: 263).

existing capabilities to manage environmental change (2012: 320). They identify these negative connotations through the synonyms for 'vulnerable' in the Oxford Thesaurus. Their findings include, "damaged," "helpless," "powerless," and "weak." They argue that by subscribing to the label 'vulnerable', indigenous communities may also "adopt the identity of victimisation, disempowerment, and dependency" (Haalboom and Natcher, 2012: 323). Such internalised perceptions can disengage and disempower communities from engaging with issues of climate change. In the Pacific context, these terms are linked to a legacy of colonialism and dependency on external forces, that the region is actively trying to counter.

Barnett and Campbell (2010) assert that vulnerability discourses are deeply entwined with issues of power. Their analysis demonstrates the broader implications that descriptions of vulnerability can bear.

> …vulnerable entities are defined in terms of their opposites in the binary: things that are vulnerable are not powerful, large, robust and knowing, but are weak, powerless, and fragile and naïve. These characteristics imply then that the large and powerful can and should act to help the helpless from their predicament since the vulnerable cannot by definition act to help themselves. Thus vulnerability discourses are a form of knowledge/power: they represent the world in ways that serve the interests of power (Barnett & Campbell 2010: 163).

Such perceptions parallel an emerging Pasifika body of literature that is critical of the colonial legacy in the Pacific region. Literature produced by influential Pasifika scholar, Epeli Hau'ofa, is critical of the often-belittling depiction of the Pacific region. He argues that social scientists have persistently disparaged the Pacific, portraying the region as small, fragmented, isolated and dependent on international aid (Hau'ofa, 2008). In recent years scholars have reinforced this criticism, lambasting the way that the region has been labelled as vulnerable and powerless (Teaiwa, 2005; Teaiwa; 2006). Following the affecting scholarship of Edward Said, a founding intellect on postcolonialism, Pacific studies scholar Katerina Teaiwa is critical of the portrayal of the Pacific as small, isolated, vulnerable and powerless, in comparison to the 'West's' perception of itself. Teaiwa states,

> There is still, however, much in the rhetoric of globalisation and development discourse that asserts the continuing smallness, peripherality, instability and helplessness of small island states and groups of mainly indigenous peoples (Teaiwa 2005: 173).

These critiques suggest that discourses of vulnerability could negatively affect the way that Pacific issues are managed. The literature implies that vulnerability discourse could further marginalise Pacific communities and could contribute to disempowering communities in responding to the impacts of climate change. Coupled with the earlier critique of this concept – that the internalisation of the concept 'vulnerable' can be disempowering for communities – the literature presents a persuasive line of inquiry that is critical of the application of 'vulnerability' in relation to communities and climate change issues.

However, there is also an extensive body of literature that explores the linkages between depictions of local communities as being 'at risk' and the emergence of localised activism, capacity-building, agency and empowerment in response to climate change (Kelly & Adger, 2000; Martello, 2008; Liverman, 1990; Füssel, 2007). Martello gives an example of how communities in the Arctic have actively presented themselves, "as representatives or embodiments of climate change itself as they advocate for climate change mitigation" (2008: 351). The 2004 Arctic Climate Impact Assessment (ACIA) was a transnational study that considered the social and environmental consequences of climate change for inhabitants of the regions around the North Pole. The ACIA asserts that climate change is currently happening in the Arctic "at a faster pace than elsewhere on Earth", and highlights the cultural and economic impacts for the indigenous peoples of the Arctic, whilst identifying implications for the rest of the world (Martello, 2008: 351).

> Arctic indigenous peoples are becoming recognised as holders of specialised knowledge, which is crucial for identifying and understanding local manifestations of global environmental change and attendant nature–society interactions. They appear as embodiments and harbingers of what climate change has in store for the rest of the world. Standing for and speaking on behalf of at-risk cultures and livelihoods, Arctic indigenous groups are now spokespersons (Martello, 2008: 353).

This example demonstrates how the embodiment of vulnerability by Arctic communities propelled their plight to the world, in effect as symbols of what the future holds for humanity as it begins to experience the impacts of climate change. But the potential for achieving community empowerment through notions of vulnerability should not be exaggerated. It appears that vulnerability is a power-laden concept. With negative connotations, vulnerability language may also stand to perpetuate colonial portrayals of the Pacific, as small, isolated and powerless. This could contribute to reinforcing power relations that stand to marginalise Pacific communities. The critique of the concept of vulnerability has challenged academics and policy makers to develop alternative concepts, so that the effects of climate change on groups of people are framed in a more empowering light.

3.4 Resilience

> In a world of complexity and contingency, of risk, relationality, flows and mutability, theoretical frameworks that promise a means of capturing that complexity are seductive. 'Resilience' is one such theory that has recently come to prominence – a ubiquitous term deployed within a variety of epistemic communities as a means for understanding and managing 'complex systems' and the processes and effects of change upon them (Welsh, 2014: 15).

The concept 'resilience' has emerged as a global "buzzword", and is cited frequently in climate change literature (Walsh, 2013). Its popularity suggests that 'resilience' is generally perceived as a more positive and empowering description than 'vulnerability' for local communities. While social vulnerability refers to the "exposure of groups of people or individuals to stress as a result of the impacts of environmental change", resilience more positively denotes increasing the "capacity to cope with stress and is hence a loose antonym for vulnerability" (Adger, 2000: 348). Resilience introduces notions of 'systems thinking' and refers to "the capacity of a system to absorb disturbances and still retain the same structure and function, while maintaining options to develop" (Nelson, 2011: 114; Holling, 1973). Two closely related terms are 'adaptation' and 'adaptive capacity'. These terms relate to the mobilisation of the resources and processes that work to maintain the function of a system in a way that does not compromise future options (Nelson, 2011).

Adaptive capacity is described as a social dimension whereby learning, education and knowledge can increase awareness of risk and uncertainty (Combaz 2014: 14). Traditionally, resilience literature has largely focussed on ecological resilience, or the capacity of ecosystems "to maintain themselves in the face of disturbance" (Adger, 2000: 347). However, recently a social focus to resilience has emerged.

Led by the Resilience Alliance network in the 1990s through its house journal *Ecology and Society*, resilience was extended to human 'systems,' creating the term, 'socio-ecological resilience' (Welsh, 2014). The socio-ecological system was a concept developed by research drawing on theories about the "co-evolutionary nature of human and biophysical systems" (Cote & Nightingale, 2012: 477). The literature asserts that socio-ecological relations cannot be conceived in isolation "as human systems are a component of, and in turn shape, ecological ones" (Cote & Nightingale, 2012: 477). Socio-ecological resilience consolidates ecological resilience with social resilience, "the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change" (Adger, 2000: 347). Adger notes that "there is a clear link between social and ecological resilience, particularly for social groups or communities that are dependent on ecological and environmental resources for their livelihoods" (2000: 347). While climate change is a phenomenon of the natural environment, it has impacts that connect with the social environment. The effects of climate change in the Cook Islands and resulting implications for society were explored earlier in this chapter. Therefore, in the context of climate change, it seems apt to consider social and ecological resilience together, as socio-ecological resilience.

Nelson (2011) proposes that resilience is contingent on three factors: the degree to which the system is susceptible to change while still retaining structure and function; the degree to which the system is capable of self-organisation; and the capacity for learning. Following the second factor of 'self-organisation', Nelson identifies the importance of relationships within a system. Nelson states, "the ability to adapt is reliant on…the ability to make adequate use of the available resources" (2011: 114). The existing linkages and quality of relationships within a social system are critical elements when attempting to manage resources and build the adaptive capacity of a socio-ecological system (Folke, 2006). This thesis seeks to connect Nelson's (2011) and Folke's (2006)

assertions of the importance of relationships in determining resilience with Adger's (2000) call for research to focus on the role of institutions in determining socio-ecological resilience. For Aitutaki this means exploring how government organisations are engaging with its communities to support local responses to climate change and to build socio-ecological resilience.

Adger broadly defines institutions to include "habitualised behaviour and rules and norms that govern society, as well as the more usual notion of formal institutions with memberships, constituencies and stakeholders" (2000: 348). Adger and Kelly (1999) identify that it is the institutional architecture connected to a social setting that determines resilience in the context of environmental change. Scholars Adger (2001), Anderies et al. (2004) and Ostrom and Janssen (2005) argue that recognising the importance of institutions as central components in connecting social and ecological resilience is critical. This is because institutional structures such as property rights govern how natural resources are used, "creating incentives for sustainable or unsustainable use" (Adger, 2000: 348).

The application of resilience concepts to socio-ecological systems has also become a source of tension and critique over the last few years, with recent scholarship acknowledging that "resilience ideas are powerful, but they are highly contested" (Brown, 2014: 108). A growing body of literature argues that resilience has been institutionalised, enjoying 'discursive dominance' in academia and amongst policy makers; however it has been under-theorised and in some cases has excluded social, political and cultural dynamics of socio-ecological systems. These dynamics contribute to developing power relations. (Brown, 2014; Christmann et al, 2012; Barnett & Campbell, 2010). Goldstein et al. argue that planning often "ignores diverse ways of knowing", emphasising the importance and need to explore the narratives of people connected to a particular place or space (2014: 1).

> Communities need to tell their own stories in order to identify system properties that are meaningful and compelling and enhance their personal and collective agency. They need to decide what will be made resilient, what are desired outcomes, whose resilience should have

> priority, and who plays what role in transforming things for the better (Goldstein et al. 2014: 16).

In the Pacific, Barnett and Campbell (2010) note that social factors, including community perspectives, have often been excluded from resilience analyses. In Aitutaki, these perspectives include indigenous knowledge systems, traditional structures and local understandings of the environment. The literature suggests that supporting the diverse worldviews of indigenous communities constitutes an important aspect of enhancing resilience. Further, it is perceived that upholding indigenous knowledges and practices is an important part of supporting the self-determination of indigenous communities. Self-determination refers to the level of autonomy that indigenous communities have in decision-making (Nuttall & Callaghan, 2000).

In response to the assertion that western knowledge systems have become dominant in climate change discussions, the literature explores conceptual approaches such as 'knowledge integration' to consider how western-science understandings can be integrated with indigenous knowledge systems (Bohensky & Maru, 2011). This study will maintain awareness for engagement between government organisations and Aitutaki communities that reflects the concept of knowledge integration. In doing so, it is also important to recognise the critiques of 'knowledge integration'. Nadasdy (1999) cautions that indigenous knowledges risk being marginalised if they are incorporated and interpreted in a western frame of reference. Correspondingly, this study gives observation to possible sources of marginalisation of indigenous knowledges.

Given the small population size of most Pacific Island countries, the relationship between a government and its citizens may be particularly powerful in influencing the extent to which communities are aware of, and engage with, climate change discussions and planning. Similarly, citizens may have a powerful influence on the way governments engage with them during climate change discussions. Urban-focused resiliency literature asserts the need for "integrated planning processes and policy working across multiple scales and sectors" (da Silva et al., 2012). Non-responsive political systems and bureaucratic structures can hinder the ability of communities to cope or adapt to climate change. While recognising that grass-root actions are valuable, it is suggested

that interventions are most effective when guided by strategies established through engagement with a variety of stakeholders, across different levels of governance (da Silva et al., 2012: 4). Through the institutional scope of the SRIC Programme, this research seeks to determine what type of government-community engagement is occurring and whose perspectives are included in approaches to build resilience.

Brown (2014) identifies three limitations in the resilience literature where there has been an omission of social, political and cultural components. The first critique is that the literature often fails to recognise resilience as "socially contingent", overlooking the question "resilience for whom"? Second, the mainstream use of resilience concepts is conservative, "focused on the persistence of a system". Third it concentrates on a system which is disturbed by external or exogenous forces, so it underplays the internal, endogenous and social dynamics of the system (Brown, 2014: 109). There is a call for scholarship that is cognisant of these factors.

This research focuses in particular, on Brown's third critique of the resilience literature, that it downplays the "internal, endogenous and social dynamics of the system" (Brown, 2014:109). To address this shortfall, this research examines the relationship between government organisations and local communities, in the setting of Aitutaki. When examining this relationship, the research attempts to identify some of the internal dynamics within the local setting that contribute to, or undermine the development of socio-ecological resilience. These internal dynamics could include networks of dialogue amongst communities or more substantive actions that local citizens co-ordinate. Awareness of the role of indigenous knowledges and local narratives in such networks, will constitute an important part of this research.

'Vulnerability' and 'resilience' are key terms in the climate change literature. They are relevant when exploring perceptions and responses of government organisations and communities to climate change in the Cook Islands. This chapter has identified that labelling a community as 'vulnerable' can elicit potentially detrimental language associations that could marginalise communities. Therefore, 'resilience' is the term that is favoured in this research, while remaining responsive to the critiques of the concept. This thesis reports research in a local setting, where the internal social and political

dynamics of a distinct socio-ecological system are identified and examined within a resilience framework. Specifically, the nature of the relationship between Cook Islands government organisations and Aitutaki communities is investigated, as a critical contributing factor to determining socio-ecological resilience. This thesis will also use governmentality theory to frame and analyse this relationship. Explored in the next section, governmentality theory provides a lens through which to consider how governed individuals might internalise certain knowledge and discourse, which in turn guides behaviours to align with the interests or mandate of the governing entity.

3.5 Governmentality

Governmentality is a Foucauldian theory that can assist in analysing the relationship between government organisations and Aitutaki communities in the context of socio-ecological resilience. Foucault coined the term in the late 1970s in an attempt to understand how "individual experience could be shaped by institutions of power and the type of knowledge they create and use" (Rutland & Aylett, 2008: 630). Foucault explored the ways in which "the modern state facilitates the creation of a self-regulating individual in order to maintain itself and achieve its aims" (Rutland & Aylett, 2008: 631). Foucault's scholarship on the meaning of government and governance set the theoretical groundwork to establish governmentality theory. Davoudi et al. interpret governmentality and its related concepts:

> The term governmentality refers to different 'mentalities', rationalities or modes of governing. The term technology is used to refer to the bundle of techniques, knowledges, representations, mechanisms and practices through which we are governed and we govern ourselves. Thus, if governmentality is about how we think (as a collective activity) about governing, government technology is about which mechanisms we use to govern and achieve our goals (2013: 551).

Lemke asserts that while the concept of 'government' often "possesses a solely political meaning," Foucault's work reinstates it in a richer context, considering other aspects of society (2010: 50). Foucault defines government as "conduct, or, more precisely, as the

'conduct of conduct', a phrase implying a range from 'governing the self' to 'governing others'" (Lemke, 2010: 50). The practice of governing has important implications when analysing how power relationships operate within a society.

Through the lens of governmentality, Foucault challenged traditional concepts of the exercise of power. Criticising the notion of binary power relations that partition the governor from the governed, he argued that power emanates through everything and everyone, from above and below, producing webs of diverse power relations (Foucault, 1998). The governmentality frame posits that power can become "dispersed, omnipresent, and facilitative, rather than centralised, occasional, and repressive" (Rutland & Aylett, 2008: 631). Foucault perceived power as a product and catalyst of relations in a population. Foucault does not discount the hegemonic powers at play within a population, where governmentality and the naturalisation of a particular idea or logic could be considered a form of hegemony (Robbins, 2012).

Political ecology literature considers these ideas, raising concerns about the ways in which environmental management and governance can be "normalised" within communities and individuals (Robbins, 2012: 75). Environmental management literature highlights how historically coercive and forceful models of environmental government have receded, making way for other governance approaches (Robbins, 2012). Such approaches include market fundamentalism that has become a widely accepted ideology, as people internalise the mandates of capitalism (Robbins, 2012). This calls to question how power is structured within a particular society and subsequently promotes a specific mandate through the dispersal of particular forms of knowledge. This present study considers how discourses of resilience could perpetuate covert power relationships, driven by particular 'technologies' of government. These include, "government at a distance, technologies of responsibilisation, and practices of subjectification that produce suitably prudent, autonomous and entrepreneurial subjects in a world of naturalised uncertainty and crisis" (Welsh, 2014: 16). Determining the type of knowledge privileged in resilience discourse in the Cook Islands, the level and mode of engagement between government organisations and communities, and who is responsible and accountable for resilience-building, are integral to deducing the power dynamics in the government-community relationship.

The Cook Islands has a complex system of governance in relation to climate change which is influenced by the external forces at play. The external players in climate change planning processes include aid providers, NGOs and global governance institutions such as the United Nations Development Programme. Regional and international partnerships and agreements are also relevant (Barnett & Campbell, 2010). It could be argued therefore that governance in the Cook Islands is to some extent distanced from the state. Multi-level governance literature provides some insight into the characteristics of complex power relations.

Today, geographers are concerned with multi-level governance systems in which a broad range of sectors of society exercise different levels of power, authority, and action to determine 'who gets what?' and 'who decides?' (Reed & Bruyneel, 2010: 646). They argue that the state has been "reconfigured" and "hollowed out" with the transfer of the functions of the state "upwards (to international and transnational institutions), downwards (to state/provincial/regional and local authorities), and outwards (to non-state actors)" (Reed & Bruyneel, 2010: 646). They advise that the "geographies of governance" should be "understood in terms of the processes, political agendas, and power relationships that produce it" (Gruby, 2013: 2048). The scope of this research focuses on the relationship between Cook Islands government organisations and Aitutaki communities. However it will also remain responsive to the wider dynamics of governance in the Cook Islands. This means showing cognisance for how multi-level entities might influence this relationship.

These multi-level governance influences also reflect and shape governmentality. For example, multilateral agencies or agreements, aid donors or programme partners engaged with the Cook Islands on issues of climate change, could require a certain discourse to be employed in the national or local policy setting. Potentially, such processes could establish or reinforce power hierarchies involving the state and external actors, maintaining a pervasive dependency relationship, which the state and communities may actively or even willingly subscribe to. One example from the literature relates to the attempt to govern populations as "vulnerable and in need of relocation" (Methmann & Oels, 2013: 282). Methmann and Oels draw on governmental techniques of "identifying risk groups". They argue that those considered to be

"vulnerable populations" are conceived as "passive bearers of their fate" and are in reality dispossessed of their agency (2013: 281). Methmann and Oels convey the resistance of Pacific ambassadors at the United Nations to the conceptualisation of "vulnerable" small island populations, as "climate refugees" (2013: 282).

> This tends to consider 'population mobility and loss of homelands' as 'unfortunate but acceptable 'solutions' to the problems of the social impacts of climate change'. Moreover, it 'reduces the ability of Pacific ambassadors at the United Nations to pressure for change, lessening the onus on multilateral institutions to curb climate change at all' (Methmann & Oels, 2013: 282).

Undoubtedly multi-level power relationships interplay in this research setting as the SRIC Programme is financed by the UNFCCC's Adaptation Fund; hence the Programme must adhere to its development, implementation and reporting criteria. Remaining aware of these factors during the fieldwork contributes to building an understanding of the influence of these power relationships. Furthermore, gauging the type of knowledge these high-level entities endorse through the Programme, contributes to determining how local understandings of the environment are valued in climate change discussions. As the next section will demonstrate, knowledge is closely related to constructions of power.

3.6 Knowledge – as discourse

> We accept the notion that the production of knowledge is political, and that science is not necessarily, or cannot be unquestionably, the truth (Barnett & Campbell, 2010: 3).

Governmentality literature asserts that knowledge is essential to governance as it is "the primary vehicle through which the state spreads its particular priorities and goals among the population" (Rutland & Aylett, 2008: 631). It is important to consider how power and knowledge, particularly relating to environmental science, are dispersed among Aitutaki communities and government organisations. This is important when attempting to identify the level of collaboration in climate change decision-making.

Cannon and Müller-Mahn state that "discursive practices are considered as drivers of social change and this includes processes of development and adaptation" (2010: 630). Fairclough (2003) claims that there are four factors that define discourse:

- "a common but controversially perceived and discussed object, such as global environmental change;
- specific individual or collective actors who lead and feed the discourse, for example scientists, journalists, politicians or NGO activists;
- an audience to which the discourse is presented;
- an arena where the contest over the disputed object is carried out, for example the media, international conferences, public debates…" (Fairclough, 2003, as cited in, Cannon & Müller-Mahn, 2010: 630).

These factors appear to resonate with the concept of resilience, as explored earlier in this chapter. However, to explore this notion of knowledge as discourse further, a critical approach is required to consider how knowledge is normalised and disseminated. This connects with postcolonial science literature. Postcolonial science analyses how science informs beliefs when creating a particular framing. It challenges the way western scientific practices have become a dominant ideology. In the Cook Islands, western science is the dominant form of knowledge in relation to climate change. Indigenous or customary knowledges about the environment however, may also contribute to how communities perceive and respond to environmental change (Barnett and Campbell, 2010). As a poststructuralist, Foucault asserts that knowledge is not a representation of reality or truth, but is constructed and dispersed to suit the interests of those in power or to create power. However Forsyth, as a critical realist, believes that knowledge is grounded in some level of reality and fact, but is presented and dispersed according to a particular construct and framing (Forsyth, 2003). Hence, indigenous customary knowledge could be perceived as an alternative framing of a reality, and could act as a counter discourse, creating a contestation of dominant and hegemonic science.

Barnett & Campbell (2010) employ aspects of governmentality theory to critique the way that climate change has been approached and represented in the Pacific. They argue that "the representations of climate change within Pacific nations, is a discursive

formation that limits understanding and action to address the interests of people living in the islands" (Barnett & Campbell, 2010: 1). They follow Foucault (1989) in defining "discursive formation" as "a system of statements that has regularity with respect to themes, object and concepts, and the way they relate to each other" (Barnett & Campbell, 2010: 1). They recognise that these formations can become "naturalised" and "taken for granted as statements of truth" (Barnett & Campbell, 2010: 1) While knowledge or the construction of a "truth" can be subject to contestation and destabilisation, "they often hold hegemonic purposes such that other possibilities are precluded" (Barnett & Campbell, 2010: 1). In this research setting, this relates to the way climate change science is negotiated with indigenous knowledge systems and local understandings of the environment; and further, how the privileged knowledge contributes to forming responses to the impacts of climate change.

Barnett and Campbell suggest there is a paradoxical role for science in this discursive formation. They argue, on the one hand, the ability of science to "identify the parameters of the problem and to mobilise responses, has been and remains important; without it we would be unaware of the risks climate change poses to [the Pacific Islands]" (Barnett & Campbell, 2010: 3). However, on the other hand, "the hegemony of natural science approaches to climate change, particularly in modeling, marginalises other approaches to generating knowledge about climate change" (Barnett & Campbell, 2010: 3). A deficiency of awareness of other forms of knowledge "can obstruct certain actions, particularly those relating to climate change adaptation" (Barnett & Campbell, 2010: 3). Barnett and Campbell observe that research about climate change in the Pacific, generally perceives Pacific Island countries as 'geographic objects,' comprising essentially homogeneous islands and coastlines. Little attention is given to social factors that could "significantly reduce the risks of damage arising from climate change" (Barnett & Campbell, 2010: 2). These social factors include indigenous knowledge systems, indigenous environmental management systems and traditional social structures. It will be particularly important to identify these social aspects of Aitutaki communities, throughout this research.

The way in which knowledge is framed and dispersed in the Cook Islands is likely to be strongly associated with how identities and labels of communities are constructed and

internalised. This links to earlier commentary that identifies how notions of vulnerability have been critiqued, and how disempowering and disengaging such labels can be if they are negatively internalised by local communities (Haalboom & Natcher, 2012). Within the context of the government-community relationship, this research attempts to identify what knowledge is constructed and dispersed, and whether this has an influence on how communities have constructed an identity, or perceive themselves in the face of climate change. Foucault explains how knowledge, as discourse, has the potential to construct subjects. He explains that there are "two meanings of the word 'subjects': subject to someone else by control and dependence; and tied to his own identity by a conscious or self knowledge" (Foucault, 1982: 781). This second meaning is relevant for this study. It embodies the idea that through the construction and dispersal of discourse, individuals form identities and can become governable subjects. Joseph states, "governmentality is therefore not just about how institutions behave, but is also about the discursive framework that renders their practices meaningful through the construction of particular objects (or subjects) of governance" (2013: 223). This consequentially connects with the perpetuation of technologies of government, which are identified in the following paragraph (Foucault, 1982). Maintaining a critical vantage point when examining the concept of resilience, provides opportunity to ask questions about how resilience could be considered as discourse, and what consequences this could have for a population. In this context it is important to explore the relationship between government organisations and communities, and the approaches taken to engage, with each another, on issues of climate change.

There is an emerging body of literature that examines vulnerability and resilience in the context of governmentality. The literature argues that vulnerability discourses grant too much intervention and responsibility to outsiders, by establishing perceptions of powerlessness and dependency within communities. Interestingly, the literature argues that discourses of resilience can grant too much responsibility to local communities, leaving them to operate in a way that perpetuates the status quo rather than pursuing fundamental change (Welsh, 2014). Welsh (2014) identifies that a significant criticism of resilience approaches is their incorporation into a neoliberal governmentality. This emerging literature on resilience and governmentality argues that resilience discourses

have shifted state-based conceptions of risk and reaction to the society, naturalising uncertainty and crisis, which helps to reproduce broader neoliberal practices of security (Welsh, 2014: 16). Resilience approaches generally operate on the assumption that communities have the responsibility to deal with uncertainty by self-organising. The literature asserts that resilience discourse thus facilitates "governmental technologies", including "government at distance" and the "technologies of responsibilisation"(Welsh, 2014: 16). This shifts the onus of responsibility for resilience building to the local level. Accordingly it limits the role of government to enabling, shaping and supporting community organisations, but specifically not to direct or fund those processes. Consequently, Welsh believes that while a resilience response presents the opportunity to manage or frame change within a system, it paradoxically could be said to produce active citizens and active institutions whose act is to maintain the status quo rather than conceive of challenging it" (Welsh, 2014: 21). These studies have typically occurred in Anglo-Saxon communities, however, the literature calls for locally based research to further probe this emerging line of enquiry.

The present study will consider the appropriateness of governmentality theory, including the 'technologies of responsibilisation', when analysing how socio-ecological resilience is constructed in Aitutaki communities.

3.7 Conclusion

This review has engaged with literature that analyses the biophysical effects and social implications of climate change in the Cook Islands. It provided an overview and critique of the concepts of vulnerability and socio-ecological resilience. To maintain a critical vantage point in this research setting, the literature suggests that governmentality theory should be explored for its appropriateness as a critical lens for analysing resilience.
This review highlights an existing body of knowledge that:

i. asserts that there is a lack of locally specific research that identifies the political ecology of the climate change problem;
ii. identifies the probable bio-physical environmental impacts of climate change in the Cook Islands and asserts how communities are likely to

experience the direct effects of climate change as well as resulting social, cultural and economic implications;

iii. identifies the need for caution when applying notions of vulnerability to local communities, given the potential for the concept to disengage, rather than empower communities in relation to climate change impacts;

iv. suggests that the concept of socio-ecological resilience may be a more appropriate concept than vulnerability to describe the situation of communities in relation to climate change issues. However, to uphold a political ecology approach, resilience should be examined through a critical lens;

v. explores how the theory of governmentality can be used to examine and illuminate relationships within a population, particularly pertaining to the distribution of knowledge, labels, and relationships of power between different actors, with respect to climate change.

3.7.1 *Gaps in the existing body of knowledge*

The literature review highlights gaps in the existing body of knowledge, with a dearth of research addressing the nexus between relationships, knowledge, power and resilience when considering climate change issues. There is a need for locally specific research that includes the perspectives of local communities. There is a lack of literature that considers the significance of the existing linkages and quality of relationships in a social system. This particularly relates to how knowledge is constructed and disseminated amongst communities, about climate change. This is significant for the management of resources and building the adaptive capacity and resilience of a socio-ecological system.

To address these deficits in the existing literature, this research examines the relationship between Cook Islands government organisations and Aitutaki communities, using a resilience framework and governmentality theory. Attention is given to how knowledge is communicated and the interplay of power relationships. Demonstrating awareness of indigenous knowledge systems and local understandings of the environment is critical to these discussions. The next chapter outlines the distinct methodological approach employed in this study.

CHAPTER IV

Methodological Approach

4.1 Positionality

A fifth generation Pākeha and an environmental studies student, my identity naturally influenced how I conducted, interpreted and presented this research. I acknowledge that I am not Cook Island Māori, and do not have first-hand experience with indigenous practices or worldviews. As a member of a bi-cultural and multi-cultural society, however, it was my intention to conduct this research in a way that breaks down the dominant Western perspective that permeates the research field in the Pacific region.

I identified with decolonising methodological approaches that recognise the obligations of researchers in an indigenous space, to be cognisant of "indigenous philosophies, cultural worldviews and processes" (Baba, Mahina, Williams & Nabobo-baba, 2004: 18). Accordingly, this research and in particular its fieldwork component, was positioned to privilege the narratives, interpretations and understandings of Cook Islanders, in respect of their environment and engagement with climate change issues.

With no direct links to the cultural context of this study, I recognised my position as an 'outsider' (Smith, 1999). I have been cognisant and critical of any issues of power that arose during the research process. This motivated a reflexive approach. Establishing my positionality as a researcher recognised that it is impossible to claim objectivity when undertaking research. To readers of this thesis, it is important to understand how this methodological approach has guided my conduct in the collection, analysis and presentation of knowledge.

4.2 Introduction

Examination of the science scholarship in *Chapter III* established the conceptual approach and theory for analysis – socio-ecological resilience and governmentality theory. This chapter identifies the methodological approach taken in this thesis and

outlines how the fieldwork research was conducted. It utilises a Western framework for 'research', implementing qualitative research methods. However, the location of this study in the Cook Islands establishes a distinct cultural and social setting. Consequently the methodologies were designed with a culturally responsive grounding. Insight from Pasifika scholarship and decolonising methodologies were explicitly drawn on, to explain this distinct approach. This guided the privileging of knowledge and conduct of fieldwork in this thesis. Broadly, a critical approach to research was taken, which values reflexivity.

Drawing on aspects of evolving best practice in Western qualitative methodologies and insight from Pasifika methodologies, the methods used to conduct this research will be identified. The ethical considerations and limitations of this study are also discussed.

4.3 Culturally appropriate research

> … Research is probably one of the dirtiest words in the indigenous world's vocabulary. When mentioned in many indigenous contexts, it stirs up silence, it conjures up bad memories, it raises a smile that is knowing and distrustful (Smith, 1999: 1).

Given the cross-cultural nature of this research it was anticipated that there could be challenges in negotiating the interface of different knowledge systems and epistemologies. Studies undertaken by Gibbs (2001), Howitt and Stevens (2005), and Chacko (2004) provide insight into the anticipated challenges. Gibbs defines cross-cultural research as "research that takes place across or between, cultures and includes research undertaken by non-indigenous researchers into the lives of indigenous people" (2001: 674). Gibbs identifies that a number of "methodological and conceptual issues" can emerge in cross-cultural research (2001: 673). Factors including the legitimacy of the researcher and what local authorisation there is to undertake the research, are touted as critical considerations when developing a study with a cross-cultural component (Howitt and Stevens, 2005).

A new era of Pacific scholars has emerged, many of whom are indigenous to the region. This has propelled the call to "decolonise the mind" through contesting what

"knowledge" is privileged and why (Smith, 1999; Baba et al. 2004: 18). This concept was first captured in the influential work of Ngũgĩ, wa Thiong'o (1986) titled, *Decolonising the Mind: the Politics of Language in African Culture.* To decolonise the mind requires access to "non-Western knowledge systems, discourses and ways of knowing the world and ourselves within it" (Smith, 1999: 25). It is important to recognise postcolonial Pasifika literature in this discussion.

Postcolonial critiques identify the impacts that colonisation and hegemonic powers have had in affecting Pacific ways of knowing and epistemologies (Gegeo, 2001; Smith, 1999). This literature encourages a commitment to recognising and developing local knowledge sources and Pacific epistemologies, based on understanding how people know or understand their social reality (Gegeo, 2001; Mila-Schaaf & Hudson, 2009; Hau'ofa, 1994). Scholar Houston Wood asserts that "the emerging cultural studies for Oceania rejects claims that Western science and disciplines possess epistemologies superior to local epistemologies found throughout Oceania...the emerging cultural studies for Oceania demand multiple epistemologies" (Wood 2003: 354).

One research approach that is encouraged through postcolonial literature is participatory research. In participatory research, community members are involved through the entire research process (Fals Borda & Rahman, 1991). This locates the community and researcher in a partnership as equals and is seen to produce usable outcomes for the community (Pain, 2004). Pain states that participatory research "is designed to be context-specific, fore fronting local conditions and local knowledge, and producing situated, rich and layered accounts" (2004: 653). A participatory approach could not be undertaken in this study, given the limited time in the field. However, this research attempted to position Aitutaki communities at the centre of this study by designing a culturally responsive research approach. To achieve this, the research was inclusive of the epistemologies of the Cook Islanders who participated in the study, through two techniques: privileging local knowledges, and establishing culturally responsive methods.

Choosing to include local narratives and indigenous knowledges through the fieldwork component, subscribed to the line of thought articulated through postcolonial

scholarship. Gegeo (2001) suggests that research in the Pacific should demonstrate an investment in local knowledge. This responds to a legacy of marginalisation in the region by Western-oriented research. Throughout Pacific histories, colonisation and Western research approaches determined what research was undertaken in the region and how knowledge was formed. This perpetuated insidious hegemonic power structures, disempowering indigenous Pacific peoples by glossing over different "histories, ways of speaking and knowing, relating, memories, connections" (Baba, et. al., 2004: 22). Consequently it undermined the historical, social, political and cultural uniqueness of each society in the Pacific region (Hauʻofa, 1994; Coxon et al., 1994). Gegeo (2001) and Mila-Schaaf and Hudson (2009) warn of the risk of perpetuating Western hegemony through research, by homogenising knowledge and subsequently losing the cultural integrity of a place. Collectively, these scholars highlight the "power of research and representation" and the "wieldy power of knowledge" (Wilson, 2001: 214; Danahar et al., 2000: 50). This emphasises the importance for researchers to question their own frames and consider how their representations can be universalised as 'truth' at the expense and marginalisation of others. Therefore, this study provides space for local knowledges drawn from the literature and the fieldwork. The next sections outline how a culturally responsive approach to fieldwork was established.

4.4 Designing a culturally responsive approach to research

Scholars Tamasese, Peteru and Waldegrave argue that a methodological framework must be "faithful to the context of its participants' contributions, and must have as its premise, a method which facilitates and delivers a construct, which accurately reflects the cultural values and meanings of its research community" (Tamasese et al, 1997: 10). Pasifika methodologies are underscored by Pacific languages, histories, narratives and concepts. In this research setting it was deemed important to explore Pasifika methodologies, given the cultural histories, Cook Islands Māori dialects and local narratives that are unique to, and an integral part of, Aitutaki communities.

Interestingly, designing the approach for this study revealed that some of the underlying principles of Pasifika methodological approaches appeared to intrinsically reflect the intentions of best-practice qualitative research. While few scholars directly address these

similarities, some literature suggests that Pasifika methodologies are closely aligned with qualitative approaches, because they enable the researcher to capture the rich contextual details, "multiple contemporary realities" and best "hear the voice" of each research participant (Mila-Schaaf & Hudson, 2009: n.p.; Kalavite in Fairbairn-Dunlop & Coxon, 2014). The intent of the qualitative paradigm does not seek to generalise information on a population, but instead explores individuals' experiences (Vishnevsky & Beanlands, 2004). The literature argues that qualitative methodologies can be employed in a way that upholds the cultural integrity of the research setting. However, the distinct cultural context in which the researcher is working must inform these methods (Huffer & Qalo, 2004; Mila-Schaaf & Hudson, 2009). The design of the approach taken in this study draws on this finding, primarily through employing ethical, best practice qualitative methodologies. Also applied are insights gained from Pasifika methodologies to establish a culturally responsive approach. Before outlining the qualitative methods used, the Pasifika methodologies that contributed to informing this approach will be explored.

Theoretical insight was gained from the conceptual approach 'teu le va', which highlights the importance of caring for the relationships in a cross-cultural setting. This directed my engagement with key concepts from the literature and guided the methods of this study. While the specific phrase 'teu le va' is Samoan, the concept is common throughout a range of Pacific languages including Cook Island Māori. It embodies a holistic consideration and respect for the different facets of relationships. It has been explored extensively by scholars in Pasifika methodologies literature, see: Ka 'ili, 2005; Refiti, 2002; Anae, 2007; Wendt, 1996. 'Va' comprehends relationships in spatial terms and emphasises that spaces between people are not empty, but always filled with socio-spatial connections (Ka'ili, 2005:89).

As a methodology, 'teu le va' involves considering multiple perspectives, developing understanding and showing empathy and compassion in a cross-cultural research setting (Mila-Schaaf & Hudson, 2009). It recognises the importance of relationships and the diverse epistemologies embedded within these relationships. Engaging with 'teu le va' as a methodology requires the consideration of social and cultural contexts and

complexities and must recognise the impacts of history, gender, culture and place in the research setting (Refiti, 2002). An understanding of 'teu le va' provided insight into how to design culturally aware conduct and methods.

Conceptual understanding of 'teu le va' points to the importance of the researcher and their situation within the research relationship. Pasifika scholars emphasise that there is "a personal context which embraces the role of the self in the study" (Kalavite in Fairbairn-Dunlop & Coxon, 2014: 160; Pasikale, George & Fiso, 1996) Insight was drawn from a key Pasifika method to further understand the role of the researcher. Jean Mitaera's 'researcher first paradigm', is a Pasifika research approach of Cook Island origin. The 'researcher first paradigm' challenges the notion of the neutral and objective researcher by recognising that the researcher establishes the "primary operating knowledge paradigm of any research project" (Koloto, 2003: 11). This approach recognises the impact that the researchers' values, beliefs and worldview can have on research. Jean Mitaera states that as a researcher, one must constantly and critically ask: "what are my visions? What are my principles? What are my values? What are my strategies?" (Mitaera, 1997, as cited in Koloto, 2003: 11). This thought process helped to minimise the lines of power that could have influenced the outcomes of the research. In the distinct cultural research setting, asking these questions can help to ensure that interests of indigenous peoples are held at the centre of the study (Smith 1999: 10).

In some ways the 'researcher first paradigm' echoes the qualitative research approach of critical reflexivity. Reflexivity is an important process in evolving best-practice ethical qualitative methods. A reflexive approach is built on the idea that the practice and theories employed for research should be appropriate and, to an extent, flexible to the context of the study. Findlay and Goug state, "reflexivity requires critical self-reflection of the ways in which the researchers' social background, assumptions, positioning and behaviour impact on the research process" (2003, xi). This aims to maintain a level of awareness toward the social, cultural, economic and political processes and values that underpin perceptions of reality (Kincheloe & McClaren, 2011). Like the 'researcher first paradigm', taking a critical reflexive approach recognised that the findings obtained throughout the research process may have been influenced by the values and positionality of the researcher, the participants involved, and the discourse privileged

(Rose, 1997; Kincheloe & McClaren, 2011). Scholar Ana Hau'alofa'ia Koloto states that "the researcher takes herself or himself into the research process and her or his principles and values influence how the research is carried out" (2003: n.p.).

The 'researcher first paradigm', with its emphasis on critical reflexivity, was selected as an appropriate fit with the scope of this study. Practical considerations such as time constraints and participant numbers had to be abided. For this reason alternative Pasifika approaches like talanoa, which can involve lengthy, open-ended conversations, (Vaioleti, 2006; Fonua, 2005; Prescott, 2008) were not deemed appropriate. With consideration of the imperative to 'teu le va' and guided by the 'researcher first paradigm' and critical reflexivity, the following guiding principles or values were employed for this study: reciprocal respect, humility and legitimacy as a researcher. This approach supported the design of culturally aware research conduct, motivated in the spirit of doing what was ethical and right as the researcher, establishing research relationships.

4.4.1 *Reciprocal respect*

It was important to develop reciprocal respect and dignity with every participant, and others with whom I crossed paths. This included the wider community and non-participant government officials. The Pacific Health Research Guidelines assert that all research is ultimately conducted in the context of relationships, hence ethical research relationships should be upheld, characterised by reciprocity, respect and balance (Health Research Council of New Zealand, 2014). Undertaking location-based fieldwork in the Cook Islands was integral to building these relationships. Meetings could be held face to face at a location collaboratively determined with the participant. This was integral to establishing rapport. Meetings were approached with a friendly, inclusive manner to facilitate comfortable and collaborative engagement as equals. If requested by the participant, relevant ongoing contact was pursued. At the conclusion of the research all participants received written gratitude, and if requested, will receive a summary of the thesis.

4.4.2 *Humility*

It is important to maintain humility in the search for knowledge and reason. This means respecting what is unknowable and resisting the feeling that there is an endpoint to the

"knowledge journey" of research (Mila-Schaaf, 2008: 32). This principle particularly values "affinity, humility and balance within the broadest social, natural and spiritual environment, rather than dominion or mastery over the natural, social and material world" (Mila-Schaaf, 2008: 32). In this research, humility underlines the importance of understanding the positionality of the researcher. It enables respect for the diverse epistemologies held by those engaging in the research. It recognises the limitations of any one piece of research in a broad and ongoing line of enquiry, in this case on climate change issues in the Cook Islands. Exploring the limitations of this research constituted recognition for the importance of having humility.

4.4.3 *Legitimacy as a researcher*

Central to establishing legitimacy as a researcher involved local authorisation for the fieldwork through the Cook Islands Government and the Aitutaki Island Government. A research permit was issued through the Cook Islands Office of the Prime Minister (Appendix A). Furthermore, a letter provided by the Aitutaki Island Government supported the study and gave authorisation to engage with community participants (Appendix A). The research permit assigned two Cook Island Associate Researchers from CCCI who provided support during fieldwork. They assisted by providing contacts to other government organisations. When requested, guidance was provided on cultural protocols for building relationships with participants. Importantly this aided in bridging the cultural gap between participants and myself. If needed, advice was available to assist with the interpretation of metaphors and narratives that came from oral responses from the participants. This guided my understanding of "unique expressions of culture" (HRC, 2014: 22).

Furthermore, before arriving in the Cook Islands I met with a representative from the Cook Islands High Commission in Wellington, New Zealand. This provided opportunity to discuss the research topic and learn about the cultural protocol and expectations when engaging with Cook Islanders in government and community contexts. The insight gained from this meeting reinforced the importance of designing a methodological approach that was culturally grounded.

The intention in establishing these guiding principles and my positionality was to bring to fruition the 'researcher first paradigm'. In doing so, it underscored the importance of the researcher in determining the shape and outcome of research. Further, it contributed to caring for research relationships, as encouraged through 'teu le va'. Reflexive praxis was undertaken to continuously evaluate these principles.

4.5 Semi-structured interviews

Semi-structured interview methods were selected to collect information in the field. Although a product of Western-derived qualitative methodologies, its flexibility allowed the established research principles to be incorporated. Interviews were conducted to gain primary insight into the perspectives of government employees and representatives from Aitutaki communities in relation to local climate change planning and decision-making. When interviewing participants from government organisations, their perspectives were reflective of their professional capacity. The perspectives of participants from Aitutaki community representatives, were expected to be personal opinions. It is acknowledged that the perspectives of the interviewees did not necessarily represent those of all Cook Islands government organisations, or of wider Aitutaki communities respectively.

Fieldwork was undertaken over a six week period between June and July 2014. Face to face interviews were chosen to reflect the importance of the relationship and to build rapport (Mila-Schaaf, 2009; Barriball & While, 1994). The interviews were designed to be flexible, making it possible for the interviewer to adjust how the topics were covered. The flexibility of a semi-structured interview was important given that each participant was from a unique background socially, culturally, professionally, educationally and geographically. To implement a standardised interview schedule would have been too restrictive for this study (Cohen & Crabtree, 2006). The questions that guided these interviews can be observed in Appendix B.

Interviews were conducted with participants individually, at a location that was mutually agreed prior to meeting. Participants from government organisations were interviewed in Rarotonga, where the centre of government is located. Interviews with

community representatives occurred in Aitutaki. Ethical approval for this research was gained through the Victoria University of Wellington Human Ethics Committee (Appendix C). Through this process, interview consent forms and participant information sheets were developed (Appendix C). The participants for the interviews were selected non-randomly. Participants from government organisations were selected for their responsibilities for issues of climate change and involvement with the SRIC Programme. The participants came from the following Cook Island government organisations:

- Climate Change Cook Islands
- Emergency Management Cook Islands
- Aitutaki Island Government
- The Cook Islands Bureau of Meteorology
- Infrastructure Cook Islands
- Cook Island National Council of Women

The participants from Aitutaki communities are called "representatives" in this study, however they should not be confused with the representatives from village constituents that sit on the Island Government. Participants from Aitutaki communities held positions that represented the wider community interests, including the mayor of Aitutaki and representatives from a local conservation group.

A total of 18 participants were approached, with 15 agreeing to participate in the interviews. Those selected represented a broad range of interests and backgrounds. Eight participants came from Cook Island government organisations with involvement in climate change decision making. Five participants were interviewed from Aitutaki communities. Two participants held community positions and liaised directly with these government organisations, as part of the SRIC Programme. One was the Aitutaki Focal Point, the other a Technical Advisor to the SRIC Programme.

Adopting a semi-structured interview approach provided scope for listening to the participants and reflecting back on the interviews. This ensured that the participants and interviewer felt culturally and personally safe and comfortable. Being open to positive and constructive feedback from participants was an integral part of improving

the way in which subsequent interviews were carried out. Utilising a reflexive approach, problems and possible limitations of this research were identified. These are presented in a reflective section of *Chapter VI*.

4.6 Data analysis and presentation of results

A major part of qualitative research is based on text and writing. The processes of qualitative research transitions from field notes and transcripts, to descriptions and interpretations and finally to the presentation of findings. The "transformation of complex social situations into text" by transcribing and writing in general, are major concerns of qualitative research (Flick, 2007: x). It is critical to have a clear process for conducting this analysis. Qualitative data analysis was undertaken by thoroughly reading the transcripts of the interviews. Common themes that surfaced from the data were identified by the researcher and were used to construct the way that findings were presented in the analysis and discussion chapters. Direct quotations from the interview transcripts were applied in the analysis and discussion chapters, to draw attention to the themes and to highlight the key points of discussion. This process attempted to ensure that the interpretation of the information gained from the participants occurred in a truthful and accurate way. It was best seen to capture and to present local narratives and perceptions. The participants' position, whether in a government organisation or the community, was identified only when expressed permission was given. In instances where the participants did not want their personal information conveyed, confidentiality was ensured.

4.7 Ethical considerations

Ethical considerations are a critical part of any qualitative research and contribute to developing a constructive relationship between the researcher and participant. From the outset, the researcher must consider the potential harmful effect that the study could have on participants. The researcher must obtain informed consent from the participants and establish a right of withdrawal from the research. In this study, I ensured as a researcher, that relationships established with participants were developed on an ethical basis, as "the rights of the people are greater than the researcher's *need to know*" (Bouma and Ling, 2004: 192). This includes the rights of participants to choose

their level of involvement in the study, to maintain anonymity if desired, to have assured confidentiality and to be treated with respect and dignity.

This study complied with the ethical guidelines set out by Victoria University of Wellington. This set the formal protocol for establishing relationships with participants. Those invited to participate in the research were fully informed about the research. This included ensuring that the participants understood what was expected from their involvement and that their participation was optional, with the choice to withdraw at any time, up until two weeks after the interview was conducted. The confidentiality of the interview was guaranteed and the option for anonymity was given for the analysis and presentation of findings. Participants were also assured that all the materials relating to the research would be stored securely for five years from the completion of the study, at which point they would be destroyed. All participants had to sign a consent form, which ensured a mutual understanding between participant and researcher and safeguarded "participant rights to freedom and self-determination to participate in the research" (Kalavite in Fairbairn-Dunlop & Coxon, 2014: 173).

4.8 Limitations of the study

This was a small study, comprised of 15 interviews across Cook Islands government organisations and representatives of Aitutaki communities. It is prudent to acknowledge this, when interpreting the conclusions of this research. One of the most important limitations of the study is that it was specifically focused to the Pa Enua, Aitutaki. This island has unique social, cultural, environmental and economic characteristics that distinguish it from any of the other islands within the Cook Islands. Given the size and location of the study, the findings should not be used to generalise engagement between government organisations and communities in relation to climate change issues in any of the Pa Enua, or the Cook Islands as a country.

The study is qualitative in nature. The results are contingent on my ability, as the researcher, to collect information from the participants and interpret it truthfully. Despite the limitations of the study, the findings provide important insights into the perceptions of Aitutaki community representatives to the local impacts of climate

change, their engagement with government organisations on these issues, and the enhancement of socio-ecological resilience within these communities.

4.9 Conclusion

This chapter has described the unique methodological approach employed in this research. It explains the use of Western-derived qualitative methods. However literature on decolonising methodologies highlights the need for culturally responsive research. By considering the concept, 'teu le va' and the 'researcher first paradigm', principles were established that guided this research in light of its cultural setting. Taking a reflexive approach throughout, enabled reflection on this process and highlighted factors that may have influenced the research direction. Establishing my positionality was an important part of this approach.

The next chapter presents the findings from the fieldwork in the Cook Islands in three sections. The first outlines how government organisations have framed the responses of local communities in respect of climate change. The second explores how Aitutaki communities understand and perceive climate change. Finally it presents findings on how government organisations and Aitutaki communities are engaging on issues of climate change through the SRIC Programme.

CHAPTER V

Narratives from the Field

5.1 Introduction

Fieldwork in the Cook Islands presented opportunities to interview a range of people and explore the research questions. Each held unique perceptions of climate change and had varying contributions to climate change planning. The interview process provided insight into the dynamics of the relationship between government organisations and Aitutaki communities, in implementing CCA and DRM approaches through the SRIC Programme. Interviews were conducted with personnel from government organisations and with representatives of communities in Aitutaki, utilising the established methodology. These interviews explored how government organisations frame their perception of Aitutaki communities, with reference to the concepts 'vulnerability' and 'resilience'. Further, community participants gave their perceptions and understandings of climate change locally. The interviews provided insight into the type of engagement that is occurring between government organisations and Aitutaki communities on CCA and DRM. Through these findings, notions of 'knowledge sharing', ownership and responsibility are considered as possible mechanisms that support resilience building and self-determined responses for climate change.

5.2 Framing Aitutaki communities – exploring the concepts of 'vulnerability' and 'resilience'

> *There is one side that I always think about 'vulnerable', and it implies sometimes that you may be weak…what we do know is that the climate change impacts are changing…We are vulnerable in the sense that we are on the front line…But we are strong, because we have coped with it in the past and we still continue to cope…I think that's where the resilience comes in and that's what our emphasis here in the Cook Islands [has] been, to strengthen our resilience.* (Participant A, Government organisation)

Chapter III highlighted the way that climate change scholarship has engaged with the concepts of 'vulnerability' and 'resilience'. This enabled the consideration as to how the response of local communities to climate change might be framed. The literature considered the appropriateness of employing these concepts to describe communities 'at risk' from the impacts of climate change. The first section of this chapter investigates the perceptions of participants from government organisations, in relation to these concepts, to frame Aitutaki communities.

Interview participants from government organisations generally voiced misgivings to the suitability of 'vulnerability' as a description or frame of Aitutaki communities in relation to the threat of climate change. Negative associations with the term 'vulnerable' were identified through the fieldwork, including words like "weak", "disempowering" and "counterproductive". There was a shared perception amongst government participants that if internalised, the connotations of vulnerability could have detrimental consequences within Aitutaki communities. One participant stated,

> *I wouldn't say 'vulnerable'…even though there is a lot of literature out there suggesting that this is something totally new, I think [communities] have always been able to cope with these things. It has just been dramatised that we are 'vulnerable', and I think it's leading people to believe that they are 'vulnerable', when in fact they have been dealing with this problem for a long time, you know, for centuries.* (Participant B, Government organisation: CCCI)

This is not to say that government approaches to climate change consistently avoid mention of notions of vulnerability. Some interview participants articulated that notions of vulnerability could add value to approaches for CCA and DRM. In the appropriate context, it was acknowledged that notions of vulnerability provided important connections to wider development processes, which link back to climate change. One participant described vulnerability as an "important cross-cutting concept" (Participant A). It was seen to connect the social, economic, cultural and environmental facets of a community that, if left unattended, could result in increasing the level of risk that communities face.

> *'Vulnerability' is a useful concept because, in my view, there are many other contributors to 'vulnerability' than just climate change and disasters, and so it provides that link again back to the development process.* (Participant C, Technical Advisor to SRIC)

However, the participant commented that focus on vulnerability throughout Pacific Island nations was primarily concentrated on recording the factors that contribute to a community's so called 'vulnerability' to climate change, whilst not actually implementing approaches to address these factors. This connects to the literature which identifies that vulnerability assessments have been one approach taken, for addressing climate change in the Cook Islands (Carruthers, 2002)

> *There has been a lot of focus on vulnerability…In my personal view I don't think this has all together been productive, partly because it has not really been utilised by any stretch of imagination to actually move from documenting vulnerability to actually addressing vulnerability.* (Participant C, Technical Advisor to SRIC)

The participant also made the point that when drawing attention to vulnerability in a development context, the implicit connotations link the term to pervasive power hierarchies, colonialism and hegemonic processes in the Pacific:

> *Yes it is disempowering. If used wisely it can be a very important concept, but if used unwisely to imply that these islands and communities do not have tremendous resilience, then it's a counterproductive concept. So it's really using it wisely and constructively…where it is at its worst is how the international community views these countries, islands and communities…and it's just misinformation.* (Participant C, Technical Advisor to SRIC)

It is also important to acknowledge that Cook Islands government organisations are at times restricted in the freedom they have to construct the language used in their policies

and plans. To an extent this constructs the framing adopted for local communities. A participant explained that to justify external financial assistance for climate change adaptation, the government must develop institutional documents. The language in these documents must correspond to that of the UNFCCC. To meet the funding criteria from donor entities, governments like the Cook Islands must be distinguished as "vulnerable". The participant explained:

> *In the UNFCCC, the only reference that actually binds developed countries to supporting developing countries in actually doing anything, says, "…shall assist those that are most vulnerable to the adverse effects of climate change"… And it's never listed "those", or doesn't describe them. That's why we don't like 'resilience' and we don't like 'resilience building'…because there is nothing in the convention about building resilience. Otherwise there is no money. There is no obligation to provide money for 'resilience building'.* (Participant D, Government organisation)

Here the participant is referring to how the term 'vulnerable' is included in the UNFCCC, which establishes a binding obligation by developed countries to assist those developing countries impacted by climate change. The convention states,

> The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects (UNFCCC, 2014).

This requires governments of countries that are impacted by climate change, like the Cook Islands, to use this language in the international context, even if they do not like it, in order to receive financial support. This suggests that references to 'vulnerability' in government approaches, like the SRIC Programme, in part reflect the mandate from global governance structures, such as the UNFCCC. The interview participants demonstrated a consciousness of the role and power that the international community commands in framing the position of Cook Islands communities. It is important to acknowledge the external pressures that contribute to the political ecology of this

research, particularly given the postcolonial literature identified in *Chapter III* see: Teaiwa (2005); Barnett & Campbell (2010).

Participants from government organisations were also asked for their perceptions of 'resilience' as a concept to frame local communities. There was a consensus that 'resilience' was a more representative concept for Aitutaki communities. 'Resilience' is also the concept that has come to prominence through the SRIC Programme. The Programme's title, "Strengthening the Resilience of our Islands and our Communities to Climate Change" is indicative of its acceptance. Participants confirmed that resilience language has been employed to frame the way that CCA and DRM is communicated and implemented in Aitutaki communities.

> *SRIC is another example of the work that is being done now to actually assist islands and communities to do something. And it's now really that the mantra or the words are 'resilience', rather than 'vulnerability'…*
> (Participant C, Technical Advisor to SRIC)

The participant explained that resilience thinking aims to empower communities. It is seen to encourage community engagement with CCA and DRM initiatives, in support of outcomes that are holistic and solution-driven from the outset. Participants from government organisations were quick to acknowledge that Aitutaki communities maintain an inherent resilience and capacity for strength in respect of environmental change.

> *You know you are telling these people about resiliency but they know more about resiliency than you or I know about [it]. It is their way of life.*
> (Participant E, Government organisation: EMCI)

These views allude to the intrinsic indigenous knowledges that communities hold in relation to the environment. The comments suggest that resilience is part of the fundamental backbone of these communities. However, participants from both government organisations and communities identified that the nature of resilience has

altered over the last 50 years. Social, cultural and economic changes in Aitutaki communities have modified the ways of coping with changes in their environment.

> *…these islands and island countries have existed for 1000 plus years… but there are things which have reduced their resilience and increased their vulnerability that means that it is now more difficult for them to survive a drought [and] much more difficult to recover from a cyclone…* (Participant C, Technical Advisor to SRIC)

The factors that have reduced the resilience of these communities, are what the SRIC Programme aims to address. The facilitation of CCA and DRM initiatives intends to enhance the existing capabilities of Aitutaki communities to cope with the impacts of climate change. Primary aspects of existing community capabilities include indigenous knowledges, traditional structures and environmental management systems. The next section will provide insight into the existing capabilities of communities, by exploring the indigenous perspectives and local narratives held by Aitutaki communities.

5.3 Understanding community perceptions to climate change

> *They have always been there and we ignore them at our peril. And yes, there are new challenges coming on which sometimes challenge these traditional methods, but I am really impressed at what exists, particularly in islands like Aitutaki*. (Participant C, Technical Advisor to SRIC)

Interviews conducted with community representatives in Aitutaki brought insight into the local perceptions of climate change. Each of the participating community representatives appeared connected to their local environment through indigenous knowledges and local understandings. This became clear from the explanation of the changes they had observed in the lagoon, outside the reef and on the land. These were local narratives, largely void of scientific rhetoric, but constituted a diverse worldview of sound indigenous knowledges and environmental understandings.

Community participants explained that they understand the environment through their indigenous knowledges, including both subliminal and explicit, daily, monthly, seasonal

and yearly observations. For example, particular environmental indicators were used as signals for environmental change. A community representative stated:

> *See the mangoes fruited twice last year [and] if there is three koru on a branch there is a cyclone coming. So there are still a lot of cultural beliefs that surround the changes.* (Participant F, Community representative)

There were other observations made by community representatives about changes in the environment that related to tropical cyclones, coastal erosion and changes to the lagoon and reef systems. Those commonly identified included: the impacts on the coastline and lagoon from cyclonic events, changes in fishing patterns outside the reef, concern over crown-of-thorns starfish outbreaks in the lagoon after cyclone events and the salination of crop-producing soils following storm surge.

Local knowledge prevalent in Aitutaki communities included indigenous methods for environmental management. Practised for hundreds of years, the ra'ui is one such method that maintains prominence today. It involves restricting use of a section of land, lagoon or marine area in order to replenish its natural environment. Commonly, if an area of the lagoon in Aitutaki has a shortage of a certain type of fish, or if there is damage to coral, restrictions on fishing will be put in place. This method of environmental management has been recognised in the literature as a technique embodying the adaptive capacity and resilience of Cook Islands communities (Hoffmann, 2002). It is argued that the values and traditions encapsulated in this method are compatible with modern conservation and environmental practices. Despite not being officially regulated through government, the ra'ui is strictly adhered to by communities.

> *These traditional systems are utterly crucial. I mean [the ra'ui has] got no regulatory backing, but it's enforced much, much better than the drink driving regulations for example. Why? Because it is based on traditional systems, with people in the villages really respecting, taking ownership*. (Participant C, Technical Advisor to SRIC)

The participant also identified that traditional community structures play an important role in the organisation of communities on Aitutaki, even in a modern day setting.

These structures contribute to the existing capacities of communities to cope with the impacts of climate change. An anecdotal account of how these traditional structures were utilised during Cyclone Patrick in 2010 was shared by one participant. He described the intricate collaborative effort between the national government, the Island Council and traditional community leadership structures that led to the clean-up following the cyclone. The government and the Island Council had formal responsibilities during the response, including communicating messages through television and radio, securing infrastructure, and providing healthcare. However it was the traditional community structures that ensured support was received throughout the community. The participant highlighted the fundamental role that traditional community leaders had in connecting the community to build strength and resilience, following this disaster.

> *…it's not just the Island Council and the island Mayor that you're relying on, it's these traditional leaders that you are relying on. This is what has always contributed to the resilience of these islands and it's that extended family and island family that comes through at times of crises, and at times of non-crises [when] just dealing with the day to day challenges of living in a small island.* (Participant C, Technical Advisor to SRIC)

These structures are highly relevant when considering the existing capacities for self-organisation amongst communities. They constitute a bottom-up response to crises, as well as the to challenges of everyday life. These are the structures that government organisations must actively consider when planning initiatives for CCA and DRM. They form part of the backbone of these communities and are integral to building robust community engagement.

Despite these established indigenous knowledge systems, only half of the community participants linked their local observations of environmental change with the concept of climate change and science-based knowledge. One community participant was involved with a local conservation group. She explained that there have been noticeable and significant changes to the environment over the last 30 years.

> *It's quite sad really because you can definitely see the changes…it's obviously a bit to do with man-made changes and then climate change is very visible. We are quite exposed I reckon, out here in the middle of the Pacific.* (Participant G, Community representative)

However, it was indicated that Aitutaki communities did not necessarily associate their local observations with a science-informed understanding of climate change. There was the perception that generations have survived changes thus far, so why should now be any different? A small, yet significant number of the community participants did not perceive climate change to be a priority concern in their everyday lives.

> *I don't think it is a pressing issue. There are other day-to-day things to worry about…it's not something that we, well I, consciously think about all the time. When the subject is brought up, I'm like, oh yeah, I am aware that um, it is affecting my island, a little bit.* (Participant H, Community representative)

It appeared that there was generally a lack of understanding of climate change throughout the community. When asked how many people in Aitutaki understood the local impacts of climate change, one participant responded,

> *None. Pretty much a really low percentage, 10% or less. I think climate change is bandied around. But realistically in terms of educating and awareness, there is not enough going on at the moment…People need to know the connection between certain events and climate change.* (Participant G, Community representative)

This was a key finding from the interviews with community representatives. There was a resounding interest in learning more about climate change and connecting their indigenous knowledges and local understandings with the science-based information. Even those who indicated that they didn't perceive climate change to be a "pressing issue", were interested in learning more about its impacts. Particularly, they were interested in understanding the connection between climate change and particular events in Aitutaki, such as cyclones and droughts. While the community representatives

were aware that some government-led education programmes had taken place already, like the Rauti Para Tablet Training Project (to be explained later in this chapter), they were keen for further opportunities that captured a broader demographic of communities. Suggestions included programmes within schools and through the regular village meetings.

In spite of not entirely understanding climate change as a science-based issue, community representatives were generally highly supportive of the notion of resilience building. It connected with their indigenous knowledges of the environment as well as what is seen to be a big part of their traditional social capacity for survival. However despite the acknowledgement of their inherent traditional resilience, community participants expressed concern that social and economic changes over the years had decreased the capacity of indigenous systems to cope with environmental change.

> *In terms of the cultural ways in which we do our plantations or our fishing or those sorts of things, yes they are there, but they are not necessarily practised as often as they used to be. So craft wise, it's there, but not as abundant as what it used to be.* (Participant G, Community representative)

In this dialogue, the community representative highlighted some of the cultural changes witnessed in Aitutaki communities. These were acknowledged as possible contributing factors to the perceived reduction of community resilience in regard to environmental change. The following section outlines the engagement of government organisations with communities, through the SRIC Programme. The purpose of this engagement is to harness existing capabilities of Aitutaki communities, such as indigenous knowledge, in an attempt to build resilience.

5.4 Engagement

Participants were asked for their view on what role government organisations and communities should have in climate change planning and adaptation approaches. Resoundingly they communicated that government organisations and communities

should have a highly integrated and cohesive relationship, while still respecting the distinction of each.

> *I see them as part of a completely linked and hugely integrated system and yeah I do distinguish, because communities are the source of understanding, in terms of what the needs are, and the capacity to address those needs, so that informs the governments and through the governments, the development partners, including donors.* (Participant C, Technical Advisor to SRIC)

Participants from both sectors emphasised that the successful engagement of communities with climate change discussions is dependent on a robust participatory environment (SRIC Programme Proposal, 2014: 55). One output of the SRIC Programme is "targeted population groups participating in adaptation and risk reduction awareness activities" (SRIC Programme Proposal, 2014: 20). Part of this involves forming productive government-community relationships to enable collaborative solutions to issues; another aspect provides space for community organised, bottom-up approaches. These were both recognised as critical components of securing effective results for CCA and DRM. There are a number of engagement initiatives in Aitutaki, facilitated through the SRIC Programme.

In these findings, the following engagement priorities are given focus:

- developing knowledge sharing between communities and government organisations; and
- encouraging communities to create and implement their own initiatives for CCA and DRM, funded by small grants.

These were considered priorities by participants from government organisations and community representatives alike. They are also mandated in the SRIC Programme. To start, the findings on the 'knowledge sharing' priority will be presented. As previously identified, all community representatives conveyed interest in engaging with government-led initiatives to learn more about the local impacts of climate change.

> *Education and awareness. That is really what we need, because climate change is a couple of words that are out there, and it can mean so many things for different people…unless you're educated on what climate change means and what impacts there are for Aitutaki.* (Participant G, Community representative)

Community representatives expressed the need for education that connected the observed changes in the local environment with climate change. They maintained that improved understanding of issues such as coastal erosion, tropical cyclones and droughts would enable the better utilisation of existing capacities, including indigenous knowledges. Participants from government organisations unanimously recognised that the indigenous knowledges held within Pa Enua communities constituted a critical part of their existing capacity to manage the impacts of climate change. Government participants considered the existing capacity of these communities to be a significant contributing factor to community resilience.

A priority of the SRIC Programme is to connect these local understandings with climate change awareness programmes. It is identified that there is a need "to improve local capacity to undertake research, analysis and dissemination of information to local communities and to introduce and strengthen community education on the environment in general and adaptation in particular, and how to relate this knowledge to sectors such as tourism through locally-appropriate mechanisms and language" (SRIC Programme Proposal, 2014: 27). Kaveinga Tapapa is one of the overarching policy mandates directing the SRIC Programme and calls for initiatives that connect with local understandings of the environment, to build this knowledge base alongside scientific understanding. The strategic directive of this policy is to, "access and build bodies of knowledge that research and promote traditional knowledge and coping mechanisms alongside scientific investigations and evidence to drive decision-making and actions" (Kaveinga Tapapa, 2013: 7-9).

Supported by the SRIC Programme, participants from government organisations explained the collaborative effort being taken by communities and government officials to document these indigenous knowledges. One participant stated that local

observations, narratives and histories, together with indigenous knowledges, play an important role in strengthening the existing capacities of communities to deal with the impacts of climate change.

> *What we can try and obtain from them is their traditional knowledge of survival for example their weaving methods, their fishing methods and how that can be passed on from generation to generation.* (Participant J, Government organisation)

The Rauti Para Tablet Training Project was a specific initiative identified by community and government organisations as facilitating 'knowledge sharing' for climate change awareness in Aitutaki communities. This Project was implemented in March 2014 through a collaborative effort by CCCI, the information communications technology division of the Office of the Prime Minister, Telecom Cook Islands, and Rauti Para.[3] The main objective of the project was to "up-skill senior citizens in the Pa Enua to confidently use tablets to communicate and access information on the web to assist them with decision-making in building resilience to the slow onset of climate change" (Aitutaki Rauti Para report, 2014: 1). The elderly community of Aitutaki were identified as an important audience to target with this training. They are viewed in the community as a "lifeline for the survival and sustainability" of Aitutaki, given their culture, knowledge and community involvement (Aitutaki Rauti Para report, 2014: 1).

> Although they possess local and traditional knowledge and practices that have worked in the past, their knowledge and skills may not be sufficient to meet or overcome the impacts of climate change (Aitutaki Rauti Para report, 2014: 1).

Connecting the elderly to information that was easily accessible through technology, was seen as a means to enable them to expand their current knowledges and practices relevant to CCA and DRM (Aitutaki Rauti Para report, 2014: 1). Participants to the training sessions were shown how to access websites that hold climate change

[3] Rauti Para is an NGO that looks after the needs and interests of the Cook Island elderly (Rauti Para Facebook Page, 2014)

information relevant to the Cook Islands and Aitutaki. They were also taught how to communicate with their family and friends offshore. While participants were not given tablets to keep, there are three tablets available for use at the Telecom store in Aitutaki's main township. Climate change awareness presentations occurred following the training sessions and were conducted in Cook Islands Māori. Importantly, part of the project involved producing a documentary on indigenous knowledges and local observations of environmental change, with contribution from the training participants.

One participant who is the SRIC Focal Point for Aitutaki, attended the training and thought it was an engaging and useful initiative.

> *The tablet training was really so successful. So cool. We had twenty people and that is a good turnout.* (Participant F, Community representative: SRIC Focal Point)

However, she commented that the project required greater follow through, with subsequent sessions to reinforce the information learned during the training.

> *I am picking that there would only be 1 or 2 out of that twenty that would actually go down and use [the tablets], because a three-day course just wasn't long enough. It needed a follow on.* (Participant F, Community representative: SRIC Focal Point)

Given that the SRIC Programme and this project are relatively new, it is too early to comment on what follow through has occurred or will occur. Communities, however, are expected to be key contributors to planned reflective processes in the SRIC Programme. It is anticipated that they will contribute to "case studies, photo stories, short participatory videos and posters", all in local languages to ascertain the success of individual projects and the Programme overall. Reflective processes also intend to give space for evaluation, the findings of which will then be integrated back into the Programme to enhance its sustainability and reach, to the multiple layers of society and across different generations.

A key expectation of the SRIC Programme, identified through its third component, is that it will develop climate change awareness through CCA and DRM approaches to empower and engage communities, through participatory processes. Projects like Rauti Para Tablet Training that are developed by government organisations and supported through the SRIC Programme could be considered as 'top-down' approaches to resilience building. However, there are also community-based projects that are supported by the SRIC Programme with small grants, which in some ways could be considered as locally driven approaches. The idea is to engage communities with early development, planning and implementation processes, so that they establish and maintain responsibility for these projects.

The Aitutaki Focal Point and Island Government work collaboratively with SRIC Programme management to support these projects through encouraging community involvement. Individuals or community groups must develop a project that aligns with the objectives of the Programme, and fits the predetermined criteria for receiving a small grant. The Director for the SRIC Programme explained that community members are encouraged to think of left field ideas.

> *Sometimes your proposal may be the craziest idea, but it is only the crazy idea until people catch onto the idea. In this game you've got to be innovative, you have got to try different things.* (Participant I, Government organisation: CCCI)

Following the development of an idea and project proposal, consultation occurs with the Island Government and SRIC Programme management, who then allocate a small grant to fund the project. The community project is provided with knowledge and resources to support its implementation.

> *We will give them the knowledge, we will give them the know-how, [and] we will give them the tools as well.* (Participant K, Government organisation: CCCI)

Since the SRIC Programme started, three project proposals from Aitutaki communities have received small grants. Given each project was in the early stages of development, it

remains to be seen how these projects progress. However, it was identified that a close relationship between the government organisations involved with the SRIC Programme and the communities involved in these projects, was imperative for securing the sustainability, accountability and transparency of the project.

> *I guess the buzzwords are transparency and accountability…because [with] these SRIC funded community initiatives, there's accountability, you've got the use of that money, it shouldn't just disappear into people's pockets or be used on other things. So…[communities and government organisations] are separate, but they've got to be intimately linked. They have different roles and responsibilities in that system.*
>
> (Participant C, Technical Advisor to SRIC)

This comment reinforces the earlier notion that government organisations and communities are part of a highly integrated system, whilst also possessing distinct roles and responsibilities. It was evident through the fieldwork that a close relationship between government organisations and Aitutaki communities is integral to sustaining the initiatives facilitated through the SRIC Programme.

5.5 Achieving long-term project sustainability

The findings that emerged about the Rauti Para Tablet Training project and the small grants projects signified that project sustainability is critical to ensuring the continued engagement of communities with CCA and DRM approaches, and consequently resilience building. Throughout these conversations, two words commonly arose, 'ownership' and 'responsibility'. Government participants asserted that knowledge sharing initiatives that raise awareness of climate change build the capacity of the communities, better enabling them to take responsibility for CCA and DRM initiatives. Further, one participant explained that through instilling in communities, a sense of ownership and thence responsibility for CCA and DRM approaches, the objectives of the Programme would be more likely to be brought to fruition, in the long-term.

> *In the last year, towards the end of the Programme, it is in that time that we start handing over the responsibilities for monitoring, the responsibilities for running the awareness programmes themselves. What we are going to do in the first couple of years is run it ourselves, but have them working with us and eventually it becomes a hand over process. So by the time we leave, we leave something that is able to sustain itself.* (Participant I, Government organisation: CCCI)

Identified here by a participant from a government organisation, is the idea of community responsibility as being an important part of the Programme. It encourages continuity of resilience building, beyond government involvement. The small grants projects are one example of an approach where communities are responsible for creating and implementing a project, where they have ownership. Communities have ownership over the concept, design and implementation. It is important to note however, that communities are still reliant on financial and administrative support from government organisations. A participant from the SRIC Programme management team stated,

> *This whole thing is not about projects, it is about changing mindsets. It's moving them [communities] from waiting for government to do something, to getting up and doing it for themselves. That is how you can help government by doing it for yourselves. And if you do that…then they can work on other things that are of national interest.* (Participant I, Government organisation: CCCI)

From this participant's comment, it may appear that government organisations are attempting to secure a community environment that self-organises to meet the SRIC Programme's community objectives for CCA and DRM. This would allow government organisations then to step back, in a sense devolving responsibility of these approaches to these 'resilient' communities. However, it would not be appropriate to infer such a view on the weight of this comment alone. From the perspectives of some community representatives, government involvement is crucial for maintaining the long-term outputs of these projects, as well as for securing accountable and transparent practices.

Any form of devolution of responsibility from government organisations to communities for resilience building, explicit or implicit, should occur with caution.

> *I think the population is a little bit small here to maintain things without government involvement. That is my impression.* (Participant L, Community representative)

Central government directives clearly imply that government organisations should oversee climate change initiatives throughout the duration of implementation, and subsequently through evaluation measures. The *Kaveinga Tapapa: Climate and Disaster Compatible Policy 2013-2016*, provides the national policy context to the SRIC Programme, as outlined in *Chapter II*. A primary strategic objective of this policy calls for an "enabling environment" which secures monitoring and reporting frameworks that "enable the ongoing assessment and management of disaster and climate risks and impacts" (Kaveinga Tapapa, 2013: 9). This monitoring and reporting framework is endorsed through the fourth component of the SRIC Programme. Evaluation is seen to "improve the effectiveness of initiatives to enhance the resilience of Pa Enua and other vulnerable communities" (SRIC Programme Proposal, 2014: 31). It appears that monitoring and evaluation processes will contribute to evaluating the ongoing interaction between government organisations and communities. The real depth of this relationship, and commitment from government organisations, will become evident as the implementation of the Programme progresses.

5.6 Conclusion

This chapter has presented the findings of fieldwork with participants from government organisations involved with the SRIC Programme and Aitutaki community representatives. These findings highlight the following:

- government organisations frame communities largely through the concept of resilience, within the SRIC Programme;
- indigenous knowledges and local understandings of the environment are integral parts of how some community representatives perceive changes in the environment. This was not always linked with science-based notions of climate

change. There was a tendency for some to assume that future climate change would be similar to past experience of extreme weather events;

- knowledge sharing approaches that connect indigenous knowledges and local understandings of the environment with climate change information are supported by the government, although this is not always a priority for external donors;
- through the SRIC Programme, communities are encouraged to engage with projects aimed at resilience building. These include both government-initiated projects and community-driven projects supported by small grants; and
- instilling in communities a sense of ownership for CCA and DRM related projects and responsibility for resilience building, is encouraged by the government in the hope that it will support the long-term sustainability of the SRIC Programme's objectives for these communities. At the same time, it appears that government organisations intend to retain a close relationship with community initiatives, to ensure accountability and transparency is upheld.

The next chapter discusses these findings in light of the existing body of literature on socio-ecological resilience and governmentality.

CHAPTER VI

Wider Reflections

6.1 Introduction

Chapter V outlined the key findings from the fieldwork. These are now discussed with insight gained from the literature on socio-ecological resilience and governmentality theory. This discussion contributes to determining whether government organisations are engaging with Aitutaki communities, to support local responses to climate change and to enhance the resilience of the socio-ecological system. This chapter suggests that the way government organisations have framed Aitutaki communities supports the shift toward resilience thinking, as embodied in the literature. The notion of 'knowledge sharing' is considered as a primary method of engagement between government organisations and Aitutaki communities, facilitated by the SRIC Programme. Next, a more 'critical' discussion of 'resilience' is offered. The appropriateness of the application of governmentality theory to this research setting is considered. Finally, this chapter highlights the limitations of this research. The discussion contributes to the emerging line of inquiry into climate change adaptation and resilience building in an indigenous Pacific context.

6.2 Aitutaki communities – 'highly resilient'

Analysis of the findings from the field demonstrates a preference for employing 'resilience' as a concept to frame Aitutaki communities, over the concept 'vulnerable'. Generally, participants from government organisations were critical of the connotations associated with 'vulnerability'. They identified that the concept ignores the diverse and intrinsic strength of communities, with the risk of fostering a sense of disempowerment. This finding is confirmatory of the more critical scholarship on notions of vulnerability. The literature found that the semantics of the label 'vulnerable', pose disengaging and disempowering ramifications for Pacific communities (Haalboom & Natcher, 2012; Barnett & Campbell, 2010). These scholars warn that if indigenous communities subscribe to the perception, or label, that they are 'vulnerable' they may also "adopt the identity of victimisation, disempowerment, and dependency" (Haalboom & Natcher,

2012: 323). It is possible that, as part of the broader global shift, Cook Islands government organisations have steered away from engaging with notions of vulnerability to frame local communities. There was critique from participants of the way that the international community perpetuates the perception that Pacific communities are 'vulnerable'. One participant stated,

> *Where it is at its worst is how the international community view these countries, islands and communities…and it's just misinformation.* (Participant C, Technical Advisor to SRIC)

This perception connects with Pasifika literature. This argues that the perpetuation of vulnerability discourse in the Pacific has continued the hegemony of the West, marginalising Pacific communities and reinforcing pervasive power hierarchies (Barnett & Campbell, 2010; Teaiwa, 2005). It is in light of this literature that the next paragraph is put forward. It is done so treading carefully, however, noting the important role of global governance in climate change discussions.

Evidently, global institutions contribute to shaping how government organisations utilise vulnerability discourse. It was found that the language used by government organisations in climate change policies and institutional approaches are subject to influence from global governing entities, like the UNFCCC. This is because the language in the UNFCCC that binds donor entities to supporting countries, like the Cook Islands, is focused around the word "vulnerable" (UNFCCC, 2014). In order to secure external donors for climate change assistance, government organisations must subscribe to this language. While this finding sits outside the government-community focus of this research, such considerations are no doubt influential in shaping the government's local approach to climate change.

These findings contribute to the political ecology of this research. They connect to multi-level governance literature that considers how high-level processes and political agendas contribute to establishing covert power hierarchies (Gruby, 2013; Reed & Bruyneel, 2010). It is critical to shed light on potential sources of high-level power relationships that could be a source of influence in this setting. Such influences could contribute to marginalising Aitutaki communities, as government organisations are

persuaded into adhering to global agendas that are disconnected from the reality of these communities. As the second section of *Chapter V* showed, perpetuating vulnerability discourse could create a sense of helplessness toward climate change that otherwise might not exist. One participant stated,

> *It has just been dramatised that we are vulnerable, and I think it's leading people to believe that they are vulnerable, when in fact they have been dealing with this problem for a long time, you know, for centuries.* (Participant B, Government organisation: CCCI)

While this research does not examine the particularities of these high-level relationships, it invites future research to investigate. It would be valuable to explore these power dynamics in the context of Pasifika scholarship. Barnett and Campbell (2010), Teaiwa (2005) and Methmann and Oels (2013) have been highly critical of the way in which hegemonic forces have perpetuated discourse that belittles and further marginalises Pacific communities. This literature lambasts the way that the international community has applied discourses of vulnerability, perpetuating denigrating connotations of isolation and smallness (Barnett & Campbell, 2010). It is important to ensure that Pasifika narratives are well represented within climate change literature and within global governance discussions, to resist top-down conventional framings.

Resilience was perceived to be a more empowering and appropriate term to use when describing Aitutaki communities. Participants from government organisations identified that through the SRIC Programme, CCA and DRM approaches intend to capture the spirit of resilience building. Participants asserted that framing Aitutaki communities as 'resilient' reflects the inherent resilience and adaptive capacity these communities possess. It was clear through the interviews with community representatives, that Aitutaki communities hold an intrinsic sense of social resilience, having survived for generations within a climate characterised by variability. Supporting this view, one participant from a government organisation stated,

> *You know you are telling these people about resiliency but they know more about resiliency than you or I know about [it]. It is their way of life.* (Participant E, Government organisation: EMCI)

This inherent "resiliency" is an aspect of Aitutaki communities that government organisations are trying to actively develop through CCA and DRM approaches. To concentrate on resilience rather than vulnerability in local climate change planning aligns with the growing literature on socio-ecological resilience, and more broadly, the growth of "resilience" as a global buzzword for climate change (Welsh, 2014). Furthermore, it is considered by some scholars to encompass a more positive and empowering description of communities, focusing on their capacity to cope with climate change (Adger, 2000: 348; Welsh, 2014).

There is potential for resilience to be widely internalised by communities, as a part of their identity. In Aitutaki, it could be argued that communities have developed a sense of identity that exemplifies resilience thinking. This community identity could be encouraged by government organisations through resilience discourse. It could also be supported through their indigenous identities and understandings of the environment and survival. Arguably, this 'resilience' identity could contribute to regulating the socio-ecological system of Aitutaki. This notion of identity is critical to the ensuing discussion. It is qualified however. While the research suggested that communities identified with 'resilience', extended investigation is required to confirm this as a robust and tested conclusion.

Following this discussion of identity, it is pertinent to explore how resilience is considered a discourse. Cannon and Müller-Mahn find that "discourses are not just practices of opinion building and decision making, but they can be considered as expressions of social relations, particular interests and power" (2010: 631). Within some socio-ecological literature, resilience is described as discourse, and has been considered as a means of social-ecological regulation (Cannon & Müller-Mahn, 2010: 630). Identifying resilience as discourse warrants deeper investigation into the implicit power relationships that could be perpetuated by the dissemination and potential internalisation of discourse in this context. Could resilience discourse, as communicated and encouraged through the SRIC Programme, encapsulate a more covert field of power? (Joseph, 2013; Cannon & Müller-Mahn, 2010).

This study explored potential sources of power within the government-community relationship, by considering how resilience discourse is disseminated. It is pertinent here, to recall the scholarship of Folke (2006). This identified that the existing linkages and quality of relationships within a social system are critical elements for managing resources, building the adaptive capacity and enhancing the resilience of a socio-ecological system. So how are government organisations *engaging* with communities to support local responses to enhance the resilience of socio-ecological systems? Captured through the SRIC Programme, the next section focuses on one of the approaches that is intended to engage Aitutaki communities with CCA and DRM. This approach, provided for by the third component of the Programme, is identified in the previous chapter as a method for developing 'knowledge sharing' between communities and government organisations. Consideration is given to how 'knowledge sharing' contributes to enhancing socio-ecological resilience within Aitutaki communities. It further examines how such engagement might support the development of self-determined responses for climate change.

6.3 'Knowledge sharing' to enhance socio-ecological resilience

'Knowledge sharing', as it is referred to in this thesis, was identified as one form of engagement between government organisations and Aitutaki communities. This engagement facilitates the exchange of science, indigenous knowledges, and local understandings in the context of CCA and DRM. Findings from the field and evidence within resilience literature support the notion that 'knowledge sharing' could contribute to developing self-determined responses to climate change, as well as enhancing socio-ecological resilience. Scholars have explicitly stated that, "indigenous knowledge is a source of resilience" (Bohensky & Maru, 2011: 9). Bohensky & Maru explain that resilience theory emphasises the need for "new ways to address longstanding as well as emerging complex social-ecological challenges [that] cannot be consistently solved with singular, mechanistic, science-centred solutions" (2011: 2); and Houde (2007) posits that indigenous knowledge systems contribute diverse perspectives when attempting to understand environmental complexity and to offer new ideas to deal with

environmental change. Houde (2007) also recommends that indigenous knowledge systems be complemented with scientific insight, and vice versa.

It was apparent that participants both from government organisations and Aitutaki communities, recognised the importance of including diverse worldviews into climate change adaptation discussions. In Aitutaki, diverse worldviews encapsulate local understandings and indigenous knowledges of the environment, as well as traditional mechanisms that are used to manage the environment. Examples of these were identified through *Chapter V*. These are distinct ways of 'knowing', independent of science-based explanations of climate change. In the Cook Islands, approaches to CCA and DRM are primarily informed by climate change science. However, as the fieldwork demonstrated, government organisations have recognised indigenous knowledge systems alongside science-based information, as a means to engage with local communities. The SRIC Programme provides the institutional setting for establishing engagement approaches that encourage this exchange.

Through the literature, the recognition of both indigenous knowledge systems and science-based information, is considered a critical component of building resilience in indigenous communities. Community representatives acknowledged that social and economic changes over the years had decreased community capacity to cope with environmental change, through their indigenous systems alone. This erosion of resilience is what the CCA and DRM approaches advanced through the SRIC Programme seek to rectify. *Chapter III* demonstrated that there is a call for resilience planning that integrates diverse worldviews within resilience scholarship. Goldstein et al. argue that resilience planning for climate change often "ignores diverse ways of knowing", emphasising the importance and need for exploring the narratives of people connected to a particular place or space (2014: 1). Including diverse worldviews into climate change discussions is seen as an important component for building the adaptive capacity for resilience in social-ecological systems (Folke, 2004). Participants from government organisations asserted that indigenous ways of knowing, form a significant part of Aitutaki communities' existing capacity to manage the local impacts of climate change.

Through the fieldwork, participants from government organisations provided examples of initiatives that attempted to engage with communities to capture local indigenous knowledges and learn from traditional environmental management systems. These included: visually documenting indigenous knowledges and local language; connecting local weather and environment observations through the Cook Islands Meteorological Service; and supporting indigenous methods for environmental resource management such as ra'ui. Supported by the SRIC Programme, the Rauti Para Tablet Training Project is a specific example of a top-down engagement initiative that encapsulates 'knowledge sharing'. The premise behind this project is that, together with science information, local ways of knowing are explored and connected with climate change. This education and awareness initiative enabled Aitutaki communities, particularly the elderly cohort, which holds extensive indigenous knowledge, to connect with science-based information and gain a deeper understanding of the local impacts of climate change. The elderly demographic was targeted deliberately. This cohort encapsulates the existing capabilities of Aitutaki communities through its depth of knowledge and experience. Berkes et al. (2000) assert that indigenous knowledge has established the ability to cope with complexity and uncertainty, given that it has been built through practice, learning, and intergenerational transmission. Participants from government organisations identified that this cohort was deliberately targeted in the initiative, as it is integral to communicating information throughout Aitutaki. The elderly are respected and listened to by others.

Importantly, it was articulated by community representatives that engaging with initiatives that contributed to boosting local understandings of climate change was likely to build the social capacity of communities; hence encouraging more community involvement in local climate change discussions. The socio-ecological resilience literature provides insight into understanding the wider significance of this type of engagement. Knowledge sharing could be viewed as a contributor to the "internal, endogenous and social dynamics of the system" as described by Brown (2014:109). Community engagement with climate change discussions through 'knowledge sharing', could be perceived as a network of dialogue amongst certain community representatives (like the elderly cohort) and government organisations. It encourages the filtering of

information through to the wider community. Through this network of dialogue, government organisations and Aitutaki communities collaboratively build awareness of climate change locally, enhancing the local capacity for building socio-ecological resilience. The literature states that where good governance is occurring, "it is usually through the direct initiative of local communities using their knowledge base" (Huffer & Qalo, 2004: 109). The literature goes on to state that "ultimately, it means listening to the communities around us and giving them a chance to express their understandings of the world" (Huffer & Qalo, 2004: 109). The finding that government organisations appear to be supporting community voices and understandings of the environment is important for two reasons. First, it illustrates one way that government organisations are recognising local community perspectives, understandings and indigenous knowledge of climate change. Secondly, it demonstrates a way in which government organisations are engaging with Aitutaki communities, through education and awareness methods, with the intention to enhance socio-ecological resilience. To develop an improved understanding for how this type of engagement might enhance socio-ecological resilience, insight about the established concept of knowledge integration can be gained from the resilience literature.

Knowledge integration suggests a pathway whereby indigenous knowledges are integrated with science to form a common model (Bohensky & Maru, 2011). Riedlinger and Berkes (2001) explain that there is an expanding literature on the potential for integrating local knowledge systems with scientific knowledge to understand climate change. Within this lies the assertion that the resilience of socio-ecological systems can be developed through integrating diverse types of knowledge into climate change planning and approaches (Folke et al. 2005; Rist and Dahdouh-Guebas, 2006; Houde, 2007). One part of this argument is that integrating indigenous knowledges with Western science contributes invaluable information to the socio-ecological system that often fills gaps which science alone cannot (Baker & Mutitjulu Community 1992; Johannes, 1998). Furthermore, it is asserted that above the scientific or "broader societal merit" considerations, the incorporation of indigenous knowledges into natural resource management or climate change adaptation, contributes to the autonomy and identity of indigenous peoples (Bohensky & Maru, 2011: 6; Aikenhead & Ogawa 2007).

This assertion is significant in the context of this research. It suggests that incorporating indigenous knowledges into CCA and DRM discussions could build socio-ecological resilience, but could also give communities more autonomy and confidence in decision-making. This could support self-determined responses for communities and contribute to upholding indigenous rights. In this research setting, it was expected that indigenous knowledge systems would contribute to informing future CCA and DRM approaches that are specific to Aitutaki communities (Kaveinga Tapapa, 2013).

There is also significant critique of knowledge integration that cannot be overlooked. This has led to a deliberate distinction between 'knowledge integration' and 'knowledge sharing'. In the context of this research setting, the critique lends insight into potential issues that could arise through knowledge sharing, but may be able to be mitigated with pre-informed awareness. Postcolonial science literature provides a lens through which this critique can be understood. It challenges Western science as a dominant ideology and recognises that knowledge is closely entwined with social, cultural and political factors, that contribute to the dynamics of power relationships within a socio-ecological system (Harding, 2006; Harding, 2001; Anderson, 2002; Forsyth, 2003; Figueroa & Harding, 2003).

A key contributor to the postcolonial science critique of knowledge integration has been Nadasdy (1999). He argues that through "integrating" indigenous knowledge into a Western science framework, the assumption is made that "indigenous knowledge is simply a new form of 'data' to be incorporated into existing management bureaucracies" (Nadasdy, 1999: 1). He asserts that this contributes to perpetuating power relationships that marginalise indigenous communities that are "forced to express themselves in ways that conform to the institutions and practices of state management rather than to their own beliefs, values, and practices" (Nadasdy, 1999: 1). This type of marginalisation has been prevalent throughout Pacific histories, in explicit and implicit manifests. The scholarship claims, "an examination of the socio-historical relationship between local Pacific knowledge systems and the so-called 'North-Atlantic universals' of modern Western ways of knowing, requires us to recognise a dynamic, characterised by colonial culture's domination over, appropriation of, and dismissal of, indigenous knowledge"

(Mila-Schaaf & Hudson, 2009: 15-16; Gegeo, 2001). It is important that those attempting to integrate indigenous knowledges with scientific understandings of climate change, respect the distinction of diverse knowledge systems, rather than attempting to locate indigenous knowledges within a Western scientific frame of reference.

Awareness of these critiques of knowledge integration is advantageous in the Aitutaki context. Government organisations could identify and address potential issues at an incipient stage. This means striking a balance between mitigating potential sources of marginalisation and optimising the contribution of local communities and their diverse knowledge systems. In this research context, potential sources of marginalisation of indigenous knowledges could come from agendas outside the government-community relationship. A participant from a government organisation acknowledged that directives from the entities which finance initiatives like the SRIC Programme, have a role in determining the engagement initiatives for implementing approaches for CCA and DRM. These entities often fail to recognise the value of incorporating indigenous knowledges into resilience building approaches for climate change. This is a factor that government organisations must negotiate in the context of engagement with local communities. This is a line of inquiry that requires ongoing investigation as the SRIC Programme progresses.

Furthermore, marginalisation could stem from inside the government-community relationship. It appears that government organisations are including indigenous knowledge systems into climate change discussions. This is important; however it is just the first step to ensuring that local perspectives are actively included in climate change decision making. What will become evident with time is whether CCA and DRM approaches are implemented that are fundamentally informed by, and uphold the integrity of, indigenous knowledges. Failing this, government organisations risk merely paying lip service to indigenous knowledge systems and marginalising these ways of knowing by locating them at the margins of science (Hountondji, 2002: 24). This discussion connects with discourses of colonisation, repression, hegemony and the quest of sustainable ethics (Odora Hoppers, 2002; Hountondji, 2002).

It is in the setting of this critique that Bohensky and Maru (2011) seek an evolution of knowledge integration in the coming years. They are optimistic that the concept can be reframed in a way that maintains the integrity of indigenous knowledges, while being enriched through interaction with other knowledge systems. In light of this optimism, it is posited that engagement initiatives, like the Rauti Para Tablet Training Project, which encompass the idea of knowledge sharing, are important. These initiatives instill in communities, a sense of understanding of the local impacts of climate change that build active citizens with the social capacity to engage with local climate change decision making. Forsyth (2003), Haalboom and Natcher (2012) and Harding (2006) suggest that prioritising local voices could contribute to more inclusive planning outcomes for local communities in the context of climate change. Engagement approaches that promote knowledge sharing could contribute to increasing community autonomy in climate change discussions. This is instrumental to securing indigenous rights and building self-determined responses for CCA and DRM.

6.4 Governmentality – an appropriate theoretical critique of resilience?

Earlier, this chapter explained how resilience could be considered as discourse, imbuing a "means for conceptualising and managing change" in socio-ecological systems (Welsh, 2014: 17). Cannon and Müller-Mahn (2010) state that "discursive practices are considered as drivers of social change". Resilience is evidently an aspect of Aitutaki communities that government organisations are trying to develop through CCA and DRM approaches. Exploring knowledge sharing demonstrated that government organisations are engaging with Aitutaki communities to support responses to climate change that are in part, informed by indigenous knowledge systems. The literature demonstrates that this type of engagement can contribute to enhancing the resilience of the socio-ecological system. It would appear that through engagement initiatives facilitated by the SRIC Programme, resilience discourse has framed the response of Aitutaki communities to climate change. Pursuing resilience through climate change adaptation approaches is widely considered as a constructive path to achieving or sustaining community security, with respect to climate change (Barnett, 2003).

A key intention of this research, however, is the maintenance of a critical vantage point when analysing resilience, in the context of government-community engagement. The literature argues that resilience discourse risks perpetuating an adaptive approach to climate change which "subsumes politics and economics into a neutral realm of ecosystem management, and which depoliticises the causal processes inherent in putting people at risk" (Cannon & Müller-Mahn, 2010: 663). This reflects back on the question raised earlier in this chapter: could resilience discourse, as communicated and encouraged through the SRIC Programme, encapsulate a more covert field of power? (Joseph, 2013; Cannon & Müller-Mahn, 2010).

Governmentality was posited, in *Chapter III*, as a possible theory through which to frame these critical discussions. This follows the emerging line of inquiry which employs governmentality theory to critically examine resilience discourse (Welsh, 2014; Joseph, 2013). Governmentality sheds light on the ways in which "relations of power can create subjects and mould practise in particular ways" (Dowling, 2010: 488). At face value, it may appear that resilience is not related to government and governing (Bulley, 2013: 266). However, there is evidence in the literature to suggest that resilience is "allied with contemporary governmental discourses that responsibilise risk away from the state and on to individuals and institutions" (Welsh, 2014: 15). Joseph, for example, argues that while resilience discourse claims to be about the operation of complex ecological and social systems, in practice, it is "closer to a form of governance that emphasises individual responsibility" (2013: 38).

As this study progressed it became increasingly evident that caution must be exercised when applying governmentality theory in a specific context. Joseph warns, "the danger inherent in the concept of governmentality is that it becomes a catch-all category that can be applied far too generally" (2010: 224). Joseph questions the extent to which governmentality can be applied beyond its liberal context, given that it places significant emphasis on the "creation of free subjects, individualisation and self-responsibilisation" (2013: 233). While governmentality is an emerging field of critique, the limits to its application must be recognised.

To heed Joseph's advice, this discussion considers how good a 'fit' governmentality theory is, as a critique of resilience in this research setting. If it does not appear to fit, it is important to resolve whether this results from incompatibility at the conceptual level, or from an issue with the practice of governmentality. In either instance, consideration of the broader social ontology of the research setting is critical to explaining the limitations of governmentality (Joseph, 2013). Joseph states that resilience is made possible by a social ontology that "urges us to turn from a concern with the outside world to a concern with our own subjectivity, our adaptability, our reflexive understanding, our own risk assessment, our knowledge acquisition and, above all else, responsible decision making" (Joseph, 2013: 40). Through exploring the engagement between government organisations and communities, the findings from the field provide insight into the social ontology, or social conditions of Aitutaki communities. Aspects of this ontology will be identified in the ensuing discussion. However it is premature to confirm results. This research must remain speculative until the Programme has had longer time to run its course. In time, it may provide a building block for further evaluative research as the Programme progresses.

Through the governmentality lens, the government's role is suggested to be one of "'motivating' and 'incentivising', 'supporting' and 'enabling' communities to help themselves, 'inviting' rather than demanding participation, and 'sharing good practice'" (Bulley, 2013: 267). Joseph states, "governmentality is therefore not just about how institutions behave, but is also about the discursive framework that renders their practices meaningful through the construction of particular objects (or subjects) of governance" (2010: 223). This discussion considers how resilience discourse could facilitate covert archetypal technologies of government, including "government at a distance, technologies of responsibilisation, and practices of subjectification that produce suitably prudent, autonomous and entrepreneurial subjects in a world of naturalised uncertainty and crisis" (Welsh, 2014: 16).

From fieldwork findings, it appears that government organisations have framed Aitutaki communities through resilience discourse. The first section of this chapter considered how Aitutaki communities could hold a sense of identity that appertains to resilience. Following Foucault's understanding of identity, we can consider how the

creation of 'resilient' identities amongst Aitutaki communities could construct 'subjects' who are more easily governable (Foucault, 1982). While in theory it can be argued that communities can internalise resilience as an identity, it is difficult to know the extent to which communities conform to this identity. The scope of this study did not provide for findings about the way communities undertake practices that embody resilience. As the SRIC Programme is in the early stages of implementation, the evidence will not be clear for a few years. However, examining the way that resilience discourse could subjectify Aitutaki communities, contributes to determining whether technologies of government are at play. Moreover, it may reveal sites of resistance within the social conditions of Aitutaki communities that shed light on the relevance of, or limits to, governmentality theory.

In any event, it can be speculated that the indigenous cultural setting that is unique to Aitutaki communities, forms an important part of their social identity and contributes to their ontology. *Chapter V* detailing fieldwork findings, sheds light on the way indigenous knowledge systems and existing traditional structures inform how communities are engaged with environmental management. It was identified that the traditional structures within the community play an important role in supporting and mobilising communities, both in times of crisis and non-crisis. These structures appear to work alongside government, but also work to keep government organisations accountable to the community. This is an important part of Aitutaki's social ontology. They could work with, or resist, governmentality. Further, 'knowledge sharing', as identified earlier, constituted an approach through which government organisations are engaging with communities to include indigenous knowledges into CCA and DRM, to ultimately build resilience. In respect of governmentality, this social condition can be perceived in two ways. On the one hand, knowledge sharing may contribute to perpetuating resilience discourse to create resilient 'subjects'. This could occur through government organisations supporting the development of active 'responsible' citizens, with the social capacity to take on responsibility for resilience building while the state "governs" from afar. The practice of 'responsibilisation' will be explored in the following paragraph. On the other hand, through engagement initiatives like knowledge sharing, government organisations may be supporting communities in pursuing self-determined

responses for climate change that are informed by their indigenous knowledge systems. This could present a site of resistance to the technologies of government. In this case, governmentality might be weakened or may not fit to the social conditions.

In exploring the technologies of government, and how they could play out in Aitutaki communities, we can examine the process of 'responsibilisation'. Through a Foucauldian lens, this term describes the way in which individuals, institutions or society covertly shift or take on the responsibility for actions or decision making, for example, by being responsible subjects in securing social or environmental welfare (Joseph, 2010). It connects to Foucault's idea of power, and the way that power relations "do not always result in a removal of liberty or options available to individuals; on the contrary, power could result in an 'empowerment' or 'responsibilisation' of subjects" (Lemke, 2002: 53). Devolving responsibility for particular actions from government to communities is "about forming identities and relationships that can be more efficiently managed and directed" (Bulley, 2013: 265). In Aitutaki, the formation of resilient communities and the subsequent rise of active citizens could contribute to building a power relationship whereby communities gradually take on the onus of resilience building through implementing CCA and DRM approaches.

Joseph (2013) argues that shifting responsibility in the context of resilience discourse can be facilitated through constructing active citizens. 'Resilience' is seen to produce active citizens who have the adaptive capacity to cope with uncertainty or change (Joseph, 2013; Welsh, 2014). In view of governmentality, resilience could be best understood, "less through the focus on external shocks and more through the idea of encouraging particular forms of self organisation, responsibility, adaptability, learning and governance" (Joseph, 2012: 237). Demonstrated in the previous section, the SRIC Programme supports building the adaptive capacity of communities. Awareness raising initiatives, like the Rauti Para Tablet Training Project and the allocation of small grants for community-organised projects, facilitate the rise of active citizens with enhanced adaptive capacities. Welsh (2014) suggests that the production of active citizens can subsequently be shaped in a way that devolves power from the government, and shifts the onus of responsibility to the local level.

By examining the type of engagement that is facilitated through the SRIC Programme's small grants projects, more can be conjectured about how responsibility for CCA and DRM approaches can be divested from government organisations to communities. What was notable was the reference to notions of responsibility and ownership relating to the small grants projects that permeated the results. By instilling in communities a sense of ownership over the small grants projects, it was perceived as a way of ensuring the long-term sustainability of these projects. One participant stated,

> *In the last year, towards the end of the Programme, it is in that time that we start handing over the responsibilities for monitoring, the responsibilities for running the awareness programmes themselves…It's moving them [communities] from waiting for government to do something, to getting up and doing it for themselves. That is how you can help government by doing it for yourselves. And if you do that…then they can work on other things that are of national interest.* (Participant I, Government Organisation: CCCI)

The literature demonstrates that resilience discourse can cultivate responsible behaviour at the community level through notions of ownership (Daouk, 2014). 'Ownership' is a current buzzword throughout development literature. There are both constructive and critical understandings of this concept, which are not delved into here. However, having a sense of ownership is generally considered to be important to establishing community empowerment and agency. In this discussion, ownership is considered "as a concept through which to assess whose voice is heard, who has influence over decisions, and who is affected by the process and outcome" (Lachapelle, 2008: 52).

From the interviews it appears that government organisations perceive that instilling in Aitutaki communities a sense of ownership over, and responsibility for, CCA and DRM approaches can result in positive, community-driven responses to climate change. The spirit of the small grants projects appears to encourage community empowerment and agency, so they take charge of developing locally determined approaches to CCA and DRM. The literature identifies that grassroots action and indigenous knowledges are important contributors to generating a sense of community participation, ownership

and responsibility (Ghai & Vivian, 2014). Importantly, it is argued that developing this sense of ownership and responsibility for implementing adaptation approaches, is integral to pursuing self-determined responses for climate change (Ghai & Vivian, 2014). Therefore, initiatives like the small grants projects which are generated through grassroots action, and approaches that embody knowledge sharing, may hold positive potential for increasing self-determined responses to climate change, amongst Aitutaki communities.

Alternatively, we can consider how instilling in communities a sense of ownership and responsibility for responding to climate change can be considered with the governmentality concept of 'responsibilisation'. First, however, it is important to realise that these community grounded initiatives are currently funded by small grants. In the context of governmentality, following the divestment of responsibility to communities, the state would theoretically roll back its financial support, whilst encouraging communities to self-organise. Essentially the government would be governing from a distance (Joseph, 2013). We can consider what this might look like in Aitutaki. For communities to sustain community initiatives and take on the responsibility for resilience building, they would need to have secured financial support from outside the government and management training. Without these resources currently provided through government organisations, self-organisation for resilience building would be challenging. This was captured by one participant who stated,

> *I think the population is a little bit small here to maintain things without government involvement. That is my impression.* (Participant L, Community representative)

What really remains to be seen in the long term is how the implementation of the SRIC Programme continues. If government organisations did begin to "govern from a distance" then "the effect may be a more intense government of communities, rather than their empowerment through resilience" (Bulley, 2013: 265). At this stage, however, it would be presumptuous to claim that resilience discourse, perpetuated through the SRIC Programme, is actively facilitating the shift of responsibility or supporting 'governing from a distance' of CCA and DRM measures to communities. At least, not in

the sense that governmentality theory encourages. There was no significant evidence that found that resilience was directly propagating liberal technologies of government. Ostensibly, the findings from the fieldwork suggest that the government is keen to maintain close integration with communities throughout the implementation of resilience-building projects. Interview participants identified this as being important in securing transparent relationships and strategies for CCA and DRM approaches, as well as maintaining accountability for resources and funding. One participant stated,

> *I guess the buzzwords are transparency and accountability…because [with] these SRIC funded community initiatives, there's accountability, you've got the use of that money, it shouldn't just disappear into people's pockets or be used on other things. So…[communities and government organisations] are separate, but they've got to be intimately linked. They have different roles and responsibilities in that system.* (Participant C, Technical Advisor to SRIC)

Generally, participants from government organisations and Aitutaki communities thought that their relationship with communities should be "highly integrated" whilst also respecting the distinctions of each. It may be that the SRIC Programme holds promise in achieving CCA and DRM approaches that are built through collaboration with communities and genuinely support indigenous rights, local community voices and responses. However, it may be that governmentality theory is able to explain the way resilience discourse operates as a means to manage communities more effectively. This could become more evident if the discourse moves more firmly towards local communities taking responsibility for themselves, especially if resources from central government are trimmed back at the same time. Because of the early phase of the Programme, it is too soon to draw definitive conclusions. It would be inappropriate to proclaim that discourses of resilience are perpetuating a form of governmentality in Aitutaki communities. As the SRIC Programme continues, the long-term agenda of government organisations will be realised.

This is where the evaluative component of the Programme is critical. It is indicated that reflective measures will "improve the effectiveness of initiatives to enhance the resilience

of Pa Enua and other vulnerable communities" (SRIC Programme Proposal, 2014: 31). It is expected that government organisations and communities will each have a role in the evaluation process. Taking an inclusive approach ensures that local perspectives inform the evaluation processes. One evaluative measure should consider how well local perspectives and indigenous knowledge systems are implemented, at a fundamental level, into these approaches. Through reflection, it should become more evident whether government organisations are supporting communities in developing long term, self-determined capacities for responding to climate change. This thesis could constitute a tangible contribution to the evaluation process.

Despite apparently ambivalent findings, this discussion is beneficial. Joseph asserts that "explaining the inappropriateness of governmentality, whether as an explanation, or as an attempted practice, is as much a part of the theoretical task, as accounting for its influence" (2013: 242). Indicating where governmentality is unclear, or may encounter obstacles, helps to identify the potential for sites of resistance and counter-hegemony (Joseph, 2013). At this stage of the SRIC Programme, governmentality theory does not appear to fit conceptually. The findings indicate that government organisations are actively engaging with communities and providing resources to support meaningful responses to climate change. Ultimately, the agenda of government will contribute to determining the applicability of governmentality in the future.

The incongruity of governmentality theory in this situation, is not to say that the perpetuation of resilience discourse in Aitutaki communities does not perpetuate covert power relations. Joseph asserts that "in such cases where governmentality fails, we are left with a different type of power relation" (2013: 243). To explore this further, it would be prudent to consider what other forms of power relations may be at work. In doing so, it is useful to note the role of global governance institutions. While it may not appear that governmentality is at work between government organisations and Aitutaki communities, reflection could extend to evaluating the relationship that the government has with global institutions. Joseph alludes to the power of the entities in the "bigger game" (2013: 50). These could include institutions that provide climate change aid to the SRIC Programme, such as the United Nations Development Programme, the World Bank or the European Union. Joseph asserts that these entities employ resilience

discourse within global governance structures and apply governmentality to states in order to conform to a particular agenda, "in the interest of global capital" (Joseph, 2013: 50). Despite communities not having the conditions on the ground congruent with clear governmentality, international institutions may still operate in a way that attempts to impose governmentality onto others.

> That is not to say that international institutions cannot operate in a neoliberal way and try to impose governmentality on others. But there is a big difference between a society having its own conditions for governmentality and a society having governmentality thrust upon it by outside institutions and organisations … while these institutions may push governmentality, local conditions on the ground may not be conducive to such techniques (Joseph, 2013: 233).

This suggests that the strength of relationship between government organisations and Aitutaki communities may be highly important. Government organisations have a pivotal role in negotiating high-level governance forces, in order to protect the interests, including indigenous rights, of local communities. Future research into this line of inquiry could penetrate the wider power hierarchies that influence the way that climate change is approached in the Cook Islands, to probe further the manner in which resilience discourse operates.

6.5 Reflecting on the research limitations

Given the cross-cultural nature of this study, the importance of culturally responsive methodologies became immediately apparent when entering the field. Insight from the concept of 'teu le va' and the 'researcher first paradigm' equipped me with the competence to aptly negotiate relationships and connect with the diverse narratives of participants in a culturally respectful manner. This was integral to gaining an understanding of indigenous knowledges and how they contribute to local perceptions of climate change in Aitutaki communities. Taking a critical reflexive approach, I maintained an understanding of my positionality and upheld robust values, principles and strategies for conducting the research. This contributed to the safety of the research

participants and of me, as the researcher. It was encouraging to receive positive feedback from a number of participants who valued the way their interviews were conducted.

Reflection on the research contributes to an enhanced understanding of its findings. The scope of the research was defined and packaged in a manner to enable indicative results in the limited time that was spent in the field. Six weeks was the maximum feasible period able to be spent in the Cook Islands. Researchers such as Nadasdy have spent years with indigenous communities in order to produce robust research findings. Longer in the field would have provided the opportunity for more penetrating enquiry, offering a deeper understanding of the social ontology of Aitutaki communities and of the dynamics of the multi-level relationships involved in implementing the SRIC Programme. Given, however, that the Programme is in the early stages of implementation, this understanding could not realistically have been achieved, either in the six weeks spent in the field, or in fact the one-year time frame of this study.

Time limitations in the field restricted the number of research participants interviewed. A significant attempt was made to obtain perspectives from Aitutaki community representatives, through undertaking interviews. Three of these attempts were unsuccessful, resulting in fewer interviews than planned. Possibly, those community representatives declined the interview opportunity due to inadequate understanding of what the research entailed. Longer in the field would have allowed more time to build rapport with these community representatives and explain the research intention. Furthermore, the timing of the fieldwork in Aitutaki overlapped with the immediate lead up to the 2014 Cook Islands general election. Being present for the election was a great learning experience, providing insight into the wider political context of this study. However, this overlap was potentially a barrier to engaging participants in Aitutaki. Much of the community was preoccupied with election related activities and did not have time to commit to an interview. Those who declined interviews were not challenged about their unwillingness to participate. This would have been disrespectful and it would have been unethical to coerce people to participate in the research. This heeded the caution of Bouma and Ling that the "rights of the people are greater than the researcher's *need to know*" (2004: 192).

Despite time constraints, quality interviews were undertaken with those who agreed to participate. Establishing my legitimacy as a researcher, through gaining local authorisation from the Cook Islands Government and Aitutaki Island Council, enabled interviews to be secured and conducted. Furthermore, with productive use of time in Rarotonga, quality interviews were undertaken with more participants from government organisations than planned. Attending the second Disaster Risk Management/Climate Change Platform Meeting provided insight into the organisational and policy context that frame climate change discussions. This was an important learning opportunity. It involved interacting with personnel from government organisations. Some personnel subsequently participated in the interviews.

Finally, I emphasise that my positionality as the researcher has undoubtedly affected and influenced the research process and findings. This is to be expected. Hence, in interpreting the conclusions of this thesis, the reader should recognise this positionality and understand the subjective nature of qualitative research.

6.6 Conclusion

This chapter has presented a discussion of the research findings in relation to key bodies of literature. It has discussed the preference among interviewees for a 'resilience', rather than 'vulnerability', focused approach to framing Aitutaki communities in respect of climate change. It has demonstrated how government organisations are engaging with communities, through 'knowledge sharing'. This develops local responses to climate change by including indigenous knowledge systems and local narratives into CCA and DRM discussions. Through the literature this is identified as a contribution to building socio-ecological resilience. Governmentality theory was explored as a possible critique of 'resilience'. At this stage, there is not enough evidence to suggest that the theory fits with the social ontology of this research setting. The recognition, however, of possible sites of resistance within the social conditions is also useful in determining the limits to governmentality. The next chapter presents concluding remarks, indicating the key findings that have been drawn from this research. In light of the findings, pathways for future research are suggested.

CHAPTER VII

Conclusion

7.1 Introduction

The SRIC Programme advances significant opportunity for Aitutaki communities. It has the potential to facilitate positive and inclusive approaches for climate change adaptation and disaster risk management which centrally locate the voices of Aitutaki communities in climate change discussions. This study has identified some perceptions of government organisations and Aitutaki communities in relation to localised climate change adaptation approaches for resilience building. Exploring resilience discourse through a critical lens has contributed to identifying the interplay of power relationships in this research setting.

This final chapter reflects on the aims of this study and summarises the key findings that this research has generated. In light of these findings, suggestions for future research are imparted to support the ongoing line of inquiry into climate change in the Cook Islands, and in the Pacific region.

7.2 Summary of Findings

This study set forth to analyse whether Cook Islands government organisations are engaging with Aitutaki communities in a manner that supports local responses for climate change. Further, it sought to determine whether this engagement contributes to enhancing the resilience of Aitutaki's socio-ecological system. This focus was driven by the existing climate change literature. It called for locally relevant research that contributed to understanding the local conditions in government policy, and the level of local community engagement with climate change decision-making (da Silva et al. 2012). Recognising that there are underlying power hierarchies at play within an environmental issue, the 'critical' political ecology approach taken in this study attempted to remain observant to how knowledge is formed and dispersed in the Aitutaki context (Forsyth, 2003). Hence, exploring the applicability of governmentality theory in this research setting contributed a critical vantage point from which resilience

discourse could be examined. Findings were produced from the following two research questions which developed understanding of the study.

- How are government organisations working with Aitutaki communities on climate change planning issues?
- How do community representatives envisage that their communities will manage the impacts of climate change, if they perceive climate change to be a threat?

This research generated findings through fieldwork, guided by culturally responsive methodologies. This approach attempted to privilege local narratives within Aitutaki communities and to locate their epistemologies centrally in the research. The following themes encapsulate the key findings of this study: frames, discourse and identity; 'knowledge sharing' to enhance socio-ecological resilience; resilience and governmentality theory; and local autonomy and self-determination. These findings are now presented.

7.2.1 *Frames, discourse and identity*

This study found that government organisations increasingly frame Aitutaki communities in relation to climate change, through the concept of 'resilience'. 'Resilience' was seen as an empowering concept to engage communities with CCA and DRM approaches, facilitated through the 'Strengthening the Resilience of our Islands and our Communities Programme'. This finding aligned with the growing body of literature that suggests 'resilience' is a more positive and empowering concept than 'vulnerability' to describe communities' responses to climate change (Haalboom & Natcher, 2012; Barnett & Campbell, 2010).

In some instances, the literature has described resilience as discourse. This reflects the idea that knowledge is not just a collection of facts that contribute to decision-making. It implicitly encompasses particular interests, social relations and power. Following the scholarship of Haalboom and Natcher (2012) and Martello (2013), and guided by Foucault's ideas of knowledge and identity, it is suggested that resilience discourse could foster a sense of identity within Aitutaki communities. This connects to the inherent

capacity for resilience held within Aitutaki communities that relates to their indigenous knowledge systems and traditional structures. Government organisations contribute to developing a 'resilient' identity through resilience discourse, which permeates from the SRIC Programme. The research finds that while it could be argued communities might internalise resilience as an identity, it was difficult to know the extent to which communities conform to this identity. Determining how government organisations frame Aitutaki communities as 'resilient' and considering how communities could subsequently internalise resilience as part of their identity, were important parts of generating an understanding of the dynamics of the government-community relationship.

7.2.2 '*Knowledge sharing' to enhance socio-ecological resilience*

Examining how government organisations and Aitutaki communities are engaging together revealed a mutual motivation to develop responses to climate change, which are informed by indigenous knowledge systems and local narratives. Indigenous knowledge systems and local observations constitute a significant part of how Aitutaki communities make sense of their environment. Community representatives indicated the need for education and awareness initiatives that connected their indigenous understandings of the environment with science-based information on climate change. Moreover, participants from government organisations saw value in harnessing indigenous knowledge systems through CCA and DRM approaches facilitated by the SRIC Programme.

Knowledge sharing initiatives such as the Rauti Para Tablet Training Project appear to constitute a pathway whereby communities can build their social capacity for adaptation. Insights from the literature suggest that communities could subsequently enhance their socio-ecological resilience and increase local autonomy in climate change discussions. In the context of Aitutaki, it was evident through the fieldwork that this engagement intends to generate holistic understandings of the local impacts of climate change.

Understanding the critique of the existing concept 'knowledge integration' highlights however, that care is needed in negotiating the interface of western-science derived

information and indigenous knowledge systems. It was cautioned that integrating diverse knowledge systems could unintentionally result in the marginalisation of indigenous knowledges if they are incorporated into, and interpreted through a Western scientific frame of reference. This critique is important for communities and government organisations alike, as they negotiate the interface of diverse knowledge systems. As the SRIC Programme progresses, it will be important to ensure that indigenous knowledges are actively informing the implementation of CCA and DRM initiatives. Failing to achieve this, risks merely paying lip service to indigenous knowledges. Following the call for an "evolution of knowledge integration", the SRIC Programme may enable knowledge sharing to occur in a way that maintains the integrity of indigenous knowledge, while being enriched through interaction with other knowledge systems. Ongoing evaluation that includes community input will be critical to determining the successes and areas for improvement of such initiatives.

7.2.3 *Resilience and governmentality theory*

The research found that through CCA and DRM approaches such as the small grants projects, communities are encouraged to develop a sense of ownership in generating local responses to climate change. Government participants identified this as a way to instill in communities a sense of responsibility for resilience building. In some respects, this could be a positive step, enabling communities to increase their local autonomy in climate change discussions. Complemented by initiatives that promote knowledge sharing, small grants initiatives could be informed by indigenous knowledges and traditional environmental management systems. This would locate the voices of Aitutaki communities centrally within local climate change discussions, as they implement self-determined approaches to build socio-ecological resilience for climate change.

A key intention of this research was to maintain a critical vantage point when analysing resilience discourse. The theory of governmentality was considered for its appropriateness to shed light on the possible lines of power between government organisations and communities. Given the limitations of this study, clear conclusions on whether governmentality is at work in this research setting were not established. It

would be presumptuous to claim that resilience discourse, perpetuated through the SRIC Programme, is actively facilitating the shift of responsibility for CCA and DRM measures to communities; or for that matter, encouraging 'governing from a distance'. At least, this was not determined in the sense that governmentality theory encourages. An examination of the existing literature found that paradoxically, it is important to identify situations in which governmentality might not apply, in order to explore the limits of the theory. Therefore, it was salient to include an exploration of the social ontology of the research setting to identify both potential lines of 'responsibilisation' and also possible sites of resistance to liberal technologies of government. It appears that government organisations intend to maintain a close relationship with Aitutaki communities, as responses to CCA and DRM are implemented. Further, financial aid to support community CCA and DRM projects is likely to continue. It would seem unlikely therefore, that the SRIC Programme was actively facilitating 'technologies' of government. As implementation progresses, this is an area that should be monitored and evaluated to maintain awareness of potential sources of power. Monitoring what knowledge is privileged and disseminated will constitute an important part, as will ensuring that evaluative processes occur within the communities and at government level.

This study also shed light on potential sources of external power relations that could influence the government-community relationship. Demonstrating cognisance of the wider power hierarchies at play contributed to mapping the political ecology of this research setting. However, an investigation into the particularities of high-level governance forces was not allowed for in the research scope.

7.2.4 Local autonomy and self-determination

At this stage of the SRIC Programme it holds promise for facilitating local responses to climate change that maintain the integrity of indigenous knowledges and enhance socio-ecological resilience. Given that the Programme is relatively new, it remains to be seen how the agenda of government organisations (and, indeed, international organisations) will play out in respect of supporting self-determined responses to climate change, in the long term.

This research has demonstrated that concepts of 'vulnerability' and 'resilience' have the power to shape the way that communities are perceived, and in fact perceive themselves, in respect of climate change. As concepts like resilience emerge and become embedded in climate change discussions, it is important that they are continually evaluated. It is paramount that these concepts support local autonomy and indigenous voices in climate change discussions, rather than risk marginalising indigenous communities. Employing 'critical' approaches, like governmentality theory, provides the opportunity to examine the power relationships that may be at work in applying particular concepts and disseminating particular knowledge in a community context. This is an area that also requires ongoing research, at local, national, regional and global levels, as the issue of climate change advances.

Initiatives like the SRIC Programme may hold real promise for achieving positive outcomes for indigenous communities in developing self-determined responses for climate change. It is early in the piece for the Programme, however this study has demonstrated early positive indicators for the potential for this programme and the strength of the relationship that is being embraced by government organisations and Aitutaki communities. In this case, it may be that the successes of the Programme initiatives can be evaluated and trialled elsewhere in the region, while maintaining awareness for the distinctive cultural context of respective Pacific communities.

7.3 Future lines of inquiry

This research is neither a terminus for this line of inquiry, nor unchallengeable. Attending to the guidance from Mila-Schaaf that one must respect the "knowledge journey" and demonstrate humility in recognising the limit that any one piece of research contributes to a broad line of inquiry (2008: 32), I propose suggestions for future research.

Future research would be well placed to explore how the SRIC Programme plays out across the Cook Islands. This Programme holds the potential to facilitate empowering, constructive and locally determined initiatives for local communities, faced with the challenges of climate change. The successes and lessons learned from this Programme

applied in Aitutaki, could aid the design and implementation of future community-focused approaches for climate change in the Cook Islands and the Pacific region.

Furthermore, it would be beneficial for further research to explore the connections between resilience and governmentality theory in local contexts. This study suggests that the distinct social-cultural conditions of Aitutaki communities might have acted as sites of resistance to governmental techniques and practices. Future research would be well placed to penetrate the dynamics of these social conditions, in an attempt to discern more about the applicability and limitations of governmentality theory. One aspect of the community ontology that would be interesting to explore is the traditional community structures in Aitutaki. Future research could consider how these structures contribute to the internal power relations adding another layer of complexity when considering how governmentality might play out or be resisted in these communities. Understanding where governmentality may encounter obstacles could assist the identification of potential sites of resistance and counter-hegemony.

Following this line of thought, it would be pertinent to investigate the extent to which discourses of resilience could be considered a function through which global institutions execute their agendas. While this study focused on the relationship between government organisations and local communities, it was apparent that external relations, such as global conventions and aid donors, potentially influence what approaches are taken or what knowledge is disseminated to the community level. Through these complex power relations, resilience discourse could be viewed as a means through which the responsibility for climate change approaches is shifted covertly on to the governments of affected countries, like the Cook Islands. Furthermore, exploring the role of NGO's in resilience building would be important as these institutions contribute another dimension to the complex power relations. Understanding the role of government organisations in negotiating power relations, at a high level and at the grassroots level, would be pivotal to such research. In the Pacific context, it would be relevant to explore how these high level relationships might connect with modern day literature on power, the neoliberal agenda and hegemony.

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APPENDICES

Figure 6. *Lagoon Reflections. (*Source: Author's Photograph, 2014).

Appendix A: Permissions

PERMIT TO UNDERTAKE

Research in the Cook Islands

This is to certify that: **Ms Anabel Christine Lusk**

Has permission from the Foundation for National Research to do a research in the Cook Islands from **5 June 2014 to 31 July 2014**

On the islands of **Rarotonga and Aitutaki**

The topic of research is: **Pursuing self-determined outcomes for climate change in the Cook Islands: Exploring the interface between government institutional directive and local community engagement in climate decision-making**

The Cook Islands Associate Researchers are: **Dr Teina Rongo and Ms Ana Tiraa of Climate Change Cook Islands**

The following special conditions apply to this research:
-To comply with Immigration requirements
-To provide a preliminary report to the Office of the Prime Minister at the earliest
-To submit 3 hard copies + 1 electronic copy of the final findings to the Office of the Prime Minister by July 2015

Permit Issued on: **29 May 2014** Issued by: **Elizabeth Koteka**
CHAIRPERSON

Receipt Number: To Pay

Reference Number: 08/14 **Signed:** _____

For enquiries concerning this permit, please quote the Name of the Researcher and the Reference Number to the Chairperson, Foundation for National Research, Office of the Prime Minister, Rarotonga, COOK ISLANDS.
Phone (682) 29 300, Fax (682) 20 856
Email: elizabeth.koteka@cookislands.gov.ck Website: www.pmoffice.gov.ck

AITUTAKI ISLAND GOVERNMENT
GOVERNMENT OF THE COOK ISLANDS
P.O. Box 66, Aitutaki, Cook Islands

Telephone: (682) 31-987, 31-700; Email: council@aitutaki.net.ck

28th April 2014

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

This letter is mainly to give my full support for ANABEL LUSK's research project to take place in paradise Aitutaki.
The issue on Climate Change is a global topic and small countries like the Cook Islands will surely be affected by these global phenomena.

Of course some of our people especially the older generation had some experienced on the changes that took place during their young age until today and they will be the best people to talk to. Although there were various research projects carried out around the Pacific on the impact of Climate Change, little has been written for Aitutaki.

Therefore I still believed giving the opportunity for Anabel to conduct research on this important issue will give us a more and broader knowledge on how climate change is affecting our small nation and more importantly how we can as small island states prepare ourselves for the worst to happen.

In conclusion, thank you for giving the opportunity for Anabel to pursue his research project on Aitutaki and I will assure you that Anabel will have an enjoyable time living amongst the people of Aitutaki.

Good Luck Anabel

Yours Faithfully

Tiraa Arere
Executive Officer

Appendix B: Interview Questions

Community participants

1. What is your position in the community?
2. What do you think climate change is?
3. Do you believe that climate change poses a threat to your community?
4. If so, what physical and social aspects of your community are you particularly concerned about being impacted by climate change? And why?
5. Do you think your community is 'vulnerable' and or 'resilient' to the impacts of climate change? What do these terms mean to you?
6. Is your community taking action to prepare for the impacts of climate change? If yes, what action is occurring?
7. Do you know what action the government is taking to plan for climate change in Aitutaki?
8. Was there consultation by government representatives with your community to guide what decisions have been made about climate change in:
    a. Your community (Aitutaki)?
9. What did you think of this consultation? In your opinion, did it adequately capture the perspectives of your community?
10. Did you feel encouraged to engage with government organisations in any consultative discussions around climate change? Who instigated these discussions?
11. Have your community contributions been included into the planning decisions that government organisations have made about climate change?
12. Have government organisations encouraged your community to self organise (form a response plan specific to your community) to climate change?
    a. How did this happen?
    b. How did the community respond to this?
13. What role should the government have in climate change planning?
14. What role should the community have in climate change planning?

Participants from government organisations

1. What government organisation do you work for?
2. What is your position within this organisation?
3. Do you think that Cook Island communities (specifically those on Aitutaki) are 'vulnerable' to the impacts of climate change?
    a. If yes, what aspects of these communities are particularly vulnerable?
4. Do you think that Cook Island communities (specifically Aitutaki communities) are 'resilient' to the impacts of climate change?
    a. If yes, then how and to what extent are they resilient?
5. The Cook Island government's JNAP clearly identifies communication as a policy priority. Why is this an important part of your policy directive?
    a. What practical steps have been taken to communicate key climate change messages to local communities?
        i. I.e. education, community meetings?
    b. Did you identify target audiences to tailor the communication of your messages to? Who were they?
    c. Have you targeted information specifically to different communities (between islands and within islands)?
6. What are they key messages about climate change that you aim to communicate to local communities?
7. Having communicated messages to local communities, do you think this is an adequate form of engagement with these communities to help inform decision-making and planning for climate change?
8. What other processes are in place to facilitate engagement?
9. How have government organisations included local community perspectives into their planning process for climate change?
10. What do you perceive to be the biggest barrier to engaging with communities and incorporating their perspectives into climate change planning and decision making?
11. Have government organisations tried to encourage communities to self-organise in forming responses to climate change?
12. Are there expectations from external (or internal) influencers, for example, aid donors, non-government organisations, internal community or organisational entities that government organisations must take into account when planning for climate change? Why or why not?
13. How do you manage these external expectations?
14. What role should the government have in climate change planning?
15. What role should the community have in climate change planning?

Appendix C: Human Ethics

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

Phone 0-4-463 5676
Fax 0-4-463 5209
Email Allison.kirkman@vuw.ac.nz

MEMORANDUM

TO	Anabel Lusk
COPY TO	Bethany Haalboom
FROM	Dr Allison Kirkman, Convener, Human Ethics Committee
DATE	6 May 2014
PAGES	1
SUBJECT	**Ethics Approval: 20781** Pursuing self-determined outcomes for climate change in the Cook Islands: Exploring the interface between government institutional directive and local community engagement in climate change decision-making

Thank you for your application for ethical approval, which has now been considered by the Standing Committee of the Human Ethics Committee.

Your application has been approved from the above date and this approval continues until 1 December 2014. If your data collection is not completed by this date you should apply to the Human Ethics Committee for an extension to this approval.

Best wishes with the research.

Allison Kirkman
Human Ethics Committee

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

Interview Consent Form

'Pursuing self-determined outcomes for climate change in the Cook Islands: Exploring the interface between government institutional directive and local community engagement in climate change decision-making.'

1. I …… (please print) consent to take part in the above mentioned project. I have read the Interview Information Sheet provided and understand its contents. I have had the research project explained to my satisfaction by the researcher. I have had an opportunity to ask questions and have them answered to my satisfaction. My consent is freely given.

2. I understand that while information and quotations gained during the research project may be published, my name will only be used in relation to the information I have provided, if I have given consent through this form.

3. I agree to have what I say in the interview attributed to me by name. YES/ NO

4. I agree to my job title being identified in publications resulting from this research: YES / NO

5. I understand that the information I have provided will be used only for this research project and that any further use will require my written consent.

6. I understand that there is the potential for this report to be published at an academic level, for example in a journal. Additionally, there is the potential that the information in this report will be presented at a conference or similar style event.

7. I understand that the information I provide will be kept confidential. This form and all other data collected throughout the duration of the interview will be stored in a locked office at the Victoria University of Wellington, and electronic data on password protected computer devices.

8. I understand that after the research is completed, the information I provide will be kept for five years after the completion of the report. After this date it will be destroyed.

9. I understand that I may withdraw from the research project up until two weeks after the interview has occurred, without providing a reason. If I withdraw, the information I provide will not be used.

10. I understand that my participation is entirely voluntary, and no payments will be made for it.

11. Please provide me with a summary report when this study is completed: YES / NO

12. I consent to the interviewer voice recording the interview. I understand that the media will be stored securely at Victoria University of Wellington. I agree to transcriptions being made of the interview, for the purpose of this study only. YES/ NO

SIGNED: DATE:

Participant contact details to return summary report:

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

Participant Information Sheet

Project Title: 'Pursuing self-determined outcomes for climate change in the Cook Islands: Exploring the interface between government institutional directive and local community engagement in climate change decision-making.'

Researcher:
My name is Anabel Lusk and I am a postgraduate student studying at Victoria University of Wellington. I am studying towards a Masters of Environmental Studies. As part of this degree I am undertaking a thesis under the supervision of Dr Bethany Haalboom, Dr. Ralph Chapman and Dr April Henderson. I am working on a project in 2014 which examines how government institutions are engaging with Cook Island communities to support self-determined local outcomes for climate change. The University requires that ethics approval be obtained for research involving human participants.

General Outline of the Project:

- To establish an understanding of the extent to which Cook Island communities are familiar with climate change issues and are engaging with government institutions for climate change planning and decision-making.
- Data will be collected from various people involved in Cook Island government institutions and purposefully selected members of Cook Island communities in personal interviews and emails.
- Interview data and the findings of a literature review will be analysed together, and presented in a final report.
- The data collection will be for a research project assigned under the VUW Environmental Studies Master's thesis programme.

Participant Involvement:

This project requires the participant to be interviewed in a semi-structured interview, which will last for approximately one hour. The conversation will be recorded on a digital recorder and transcribed by Anabel Lusk. Even if the participant agrees to being recorded, they may choose to have the recorder turned off at anytime. Semi-structured interviews are relatively open structured and do not necessarily stick to a strict question layout. The majority of questions in a semi-structured interview are adjusted during the interview. These questions will relate to what involvement the participant has had either as a member of a government organization or as a representative of a community in the Cook Islands in climate change planning and decision making. The data gathered from the recorded interviews will be transcribed and analysed qualitatively.

Confidentiality: All material collected will be kept confidential, if this is requested by the participant on the consent form. Participants names will be published only if they have given prior consent. No one but the nominated researcher and their supervisors, Dr. Bethany Haalboom, Dr. Ralph Chapmand and Dr. April Henderson, will have access to the material provided by the participants; the confidentiality of the participants is to be preserved. The Participant's data will be kept confidential during the collection phase and during later stages of the research by being electronically stored on a computer that is password protected.

Data Storage:
The information transcribed from the digital voice recordings will be retained at Victoria University of Wellington for a period of 5 years after which it will be destroyed.

Right to Withdraw from Participation:
Participants have the right to withdraw from participation at any time. Participants have the right to withdraw their data from the research within two weeks of the interview.

Queries and Concerns:
Participants can raise queries on the project via email or phone contact (luskanab@myvuw.ac.nz), or 021 0291 4991. For further requests for information or queries regarding the study, participants can contact the primary Project Supervisor, Bethany Haalboom at the School of Geography, Environment and Earth Sciences, Victoria University of Wellington, PO Box 600, Wellington, New Zealand, (Bethany.Haalboom@vuw.ac.nz).

Ethics Committee Clearance:
The ethical aspects of this project have been approved by the Victoria University of Wellington Human Ethics Committee.

If you have any concerns about the ethics of this research, please contact Dr Allison Kirkman (Allison.Kirkman@vuw.ac.nz), Ph: 04 463 57676, Chair of the Human Ethics Committee, Victoria University of Wellington.