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Current and future climate change adaptation of a
vulnerable coastal community on the Coromandel Peninsula,
New Zealand

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requirements for the Degree
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at Massey University, Manawatu
New Zealand.

Paul Schneider

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For Daniela and Lucia
companions in adventure

In the rise of mist from the estuary and the fall of rain, in the movements of the incoming and outgoing tides, I see a reflection of the deepest mystery and most sustaining pattern in all of life: that of arrival and departure, of death and regeneration. And, in seeing them I feel satisfaction. Without being sure of precisely to whom one owes gratitude, I am thankful that this piece of the earth exists and we upon it, to see it and to experience these things (M. King, 1993).

ABSTRACT

Scientific as well as anecdotal evidence indicate that climate change impacts are being experienced and are affecting communities vulnerable to climate change along the Coromandel Coast. It is therefore imperative to deepen understanding about adaptation to predicted changes, vulnerability and environmental governance efforts in the context of an ephemeral world and given distinctive local conditions, values, interests and experiences. Effective climate change adaptation requires authentic public participation and integration of scientific and local and traditional environmental knowledge. The aim of this research is to recognise the impacts of climate change on a coastal community on the Coromandel Peninsula and analyse the guidance required to facilitate effective adaptation. The approach chosen examines the relationship between local perceptions and national and international guidance in order to identify key principles for meaningful local adaptation. This thesis outlines key principles to manage climate change impacts based on a process of adaptation, sustainability, avoidance, remedy or mitigation of adverse effects, adoption of the precautionary principle, kaitiakitanga, local and traditional environmental knowledge, education and public awareness, governance, responsibility and liability, mainstreaming of climate change information, vulnerability, risk and preparedness for planning and policy decisions. The applied focus is on the local scale to establish an understanding of how vulnerable coastal communities like Te Puru, on the Coromandel Peninsula, New Zealand, are affected by projected climate change and how adaptation can be achieved meaningfully and successfully. This research thus contributes to a comprehension of local relevance of climate change and identifies key factors in the light of national and international climate change guidance.

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This venture began while I was working for the Department of Conservation studying the impact of introduced mammalian predators on the indigenous fauna and flora of the Coromandel Peninsula. The Peninsula Project of which I was the Technical Support Ranger at the time is about both improving the health of the environment as well as reducing flood risks for vulnerable communities. It was during this time that I asked myself how vulnerable are the communities on the Coromandel Peninsula really? What exactly makes them vulnerable and what if conditions change? Subsequent questions included what the future will hold for these communities and what impact climate change will have.

I like the idea that everything happens for a reason and people who are meant to meet will eventually do so. When I attended the *Emergency Management and Social Science Disaster Research in New Zealand Workshop* on the 8th of December 2008 and heard Associate Professor Bruce Glavovic speak, I took the opportunity to introduce myself and point out my interests after the workshop. Bruce accepted me as one of his students so I resigned from what most people I know referred to as a 'dream job' and enrolled as an extramural Master's student at Massey University Manawatu. Bruce challenges my way of thinking and provides intellectual stimulation that has significantly influenced my reasoning far beyond vulnerable communities and climate change. By giving me the opportunity to write this thesis, Bruce has influenced not only my thinking but my life.

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¹ Māori word for grandchild

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