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# **Geographies of economy-making: the articulation and circulation of Taewa Māori across Aotearoa New Zealand**

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy  
in Geography, The University of Auckland, 2015.



## Abstract

The *articulation* of diverse Māori economies with other economies in processes of *economy-making* is relatively unexplored, but provides an intellectual space to rethink the constitutive elements of economy-making (economisation) and the possibilities and challenges of putting new material and relations into diverse economic circulations. The emergent discourse of the post-Treaty Settlement Taniwha Economy, in New Zealand seeks to mobilise Māori resources into capitalisation processes and *unlock economy* in terms of capitalocentric economic imaginaries. However, little attention has been paid to how more diverse Māori economy-making projects that emphasise cultural commitments might be encouraged to produce wider possibilities and articulate creatively with capitalist economies and state development projects. This thesis explores the geographies of taewa circulation, a marginal economy. It focuses specifically on how *economic circulations* of taewa are constructed, expanded and transformed through diverse and co-constitutive sets of actors, ideas, relationships, objects and politics. The thesis highlights negotiated and transformative articulations between diverse economies that demonstrate how economy is practised and economies are maintained, expanded, and reconstituted.

Taewa economy is explored through a conceptual apparatus that highlights economy-making. Caliskan and Callon's idea of economisation is brought into a productive dialogue with other concepts that see economy as more-than markets and more-than-capitalist, and which attend to the practices, diversity, situatedness, non-humaness and contestedness of economy-making. The research explores economy-making by following my own journeys through taewa economy and its defining circulations and moments of meaning making. It focuses in particular on three sets of encounters with economy-making agents and *agencements* in which they act: Tāhuri Whenua, a Māori vegetable collective; Auntie's Garden, a Māori-State collective market-making experiment to get things moving in and between economies; and Potato Psyllids, pests that are currently attacking taewa across New Zealand, and winning.

The thesis identifies four key findings: taewa economies are vibrant, vital, exciting and rich with human, cultural and economic possibility; the articulation of ideas, objects and investment across economies creates possibilities for expanding diverse Māori economies; who and what articulates is important in shaping these possibilities and their transformative potential; and the non-human is a significant, unpredictable and largely unknown agency of economy-making in agricultural economies. Māori and capitalist economy and human and non-human worlds are entangled, and working with these entanglements to foster better worlds requires imaginative and experimental interventions. Each of my encounters demonstrates an articulation between diverse and capitalist economies as actors move between them, things circulate around them, practices bind them together, and meanings become co-constituted across their border.

These findings allow me to argue that economy (and diverse economies) is made, far more than capitalist and is not neatly bordered in separate spaces. Taking back and enacting different economic futures needs to address processes of articulation and the multiple circulations of objects

and values that constitute them, as well as imagining, enacting and reproducing economies outside of capitalism. It needs to encourage the expansion of diverse economies. In Māori worlds this is a challenge that must be addressed in order to strengthen and vitalise Māori ways of being and doing.

## **Dedication**

Hiroki Ogawa & Nicole Sutton

Hemi Cunningham (Uncle Jimmy)

Wendy Pettigrew



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# Chapter 1: Introduction: Māori political worlds and economic geography – a strange and situated account of economy-making.

## 1.1. Journeying with taewa

This thesis charts my encounters and journeys with Māori potatoes (taewa). It tells of how I have been invited into Māori worlds and economies to journey with the growers, organisations and objects of the taewa economy. As a pākehā (non-Māori)<sup>1</sup> economic geographer this has been an uneasy privilege that has put me in relation with, and responsible to, somebody else's politics – a politics of decolonisation, self-determination and situated-economy making. My journey has led me to understand economy as co-constituted by diverse aspirations, challenges, ethics, politics, material objects and practices, and always 'in-the-making'. The journey has been one of shared learning and engagement in economy, framed and infused by love of the taewa.

So how does a pākehā economic geographer end up *in* and *enacting* Māori potato worlds to investigate economy-making in Aotearoa New Zealand? In short, my story is one of researching in the wild (Callon & Rabearisoa 2003; Carolan 2013b) inspired by two antipodean schools of thought, post-structuralist political economy (Lewis *et al.* 2015a) and postcapitalist politics (Gibson-Graham 2005). Both licence an academic openness that has afforded me a freedom to experiment and to allow for my research to be shaped by the invitation to journey in Māori economy. I am calling what I have done [and continue to do] project-less research, research that escapes '*the project*' and *the projection of ideas on the world*. Instead I have been able to *journey with*, see and do economy in embodied ways, and thus, in turn to know economy differently. This 'wild' practice levels out institutionalised asymmetries in the production of knowledge by 'wilding' methodology and epistemology and the worlds of knowing they bring into being. I do not claim any special position as a researcher in the wild, but have revelled in the opportunity to produce knowledge that is situated, attentive to the politics of place and representation, and place-making.

In studying taewa economy-making [the assemblage of objects, actors, practices, circulations and articulations], I have read widely across questions of society and economy. I have developed a particular bent for Callon, Carolan, Latour, Mitchell, Tsing, and Miller, but also for Haraway and indigenous NZ educationalist Linda Smith. Not one of these is an economic

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<sup>1</sup> One of my aims in this thesis is to make Māori concepts and terminology routine. Speakers of Te Reo (or Māori language) will recognise that many of the terms used have contested meanings, or shades of meaning. For non-speakers of Te Reo, I offer definitions from the immediately available online dictionary ([www.maoridictionary.co.nz](http://www.maoridictionary.co.nz)) where terms are not discussed and meanings not developed in the text. They will be provided in footnotes at the point where they are first introduced. The reader needs to be aware that the meanings may be contested.

geographer, but others working with their ideas are: Berndt & Boeckler, Gibson-Graham and colleagues in the Community Economies Group, and Le Heron, Lewis and colleagues at the University of Auckland. The point is important - something that a number of economic geographers, would claim as a distinctive rather than defining feature of our discipline. The absence of canon, or even accepted and clearly demarcated episto-methodological debates, in economic geography is its own guidance. I position myself in the enactive research tradition that emerges from a poststructuralist reinterpretation of the aphorism that geography is what geographers do (Le Heron & Lewis 2011). My economic geography emerges from the doing of research, weak theorising (Gibson-Graham 2006) or 'theorising away from the empirical' (Lewis et al. 2015), and engagement with others. Indeed, I have embraced this licence to journey projectless into the open-endedness of taewa economy in the making.

Along with other antipodean geographers, I work in a post-colonial setting. This demands certain sensitivities and imposes certain responsibilities in relation to colonial histories and contemporary political projects and their underlying aspirations (Bargh *et al.* 2014; Underhill-Sem & Lewis 2008; Lewis *et al.* 2009). I argue that this makes me neither an apologist – politically or intellectually – nor does it require giving myself over to co-option and contingency (Larner 2011; Le Heron & Lewis 2011). I have been handed a Māori sovereignty flag and asked to run along a beach with a protest group – 'Pākehā researcher joins the cause of indigenous sovereignty'. Like other antipodean economic geographers (see, for example Wray *et al.* 2013)<sup>2</sup>, I see this kind of enactive research as doubly challenging theoretically and politically as it takes away the option of cold, distanced critique, and forces the embodied researcher into power saturated, messy and uncertain worlds with responsibilities that extend beyond a dispassionate gaze (see Carolan 2013b; Lewis *et al.* 2015b). As I will illustrate, the burdens of responsibility come with the pleasures of participation and the warmth of encounters with many.

Is this project-less work made any easier by the absence of disciplinary canon? Larner and colleagues (2007) take the notion of a political project seriously, defining it as a strategically mobilised narrative that marshals multiple and often contradictory investments and interests. This is an open and emergent conception for economic geography that speaks to assemblage around a core politics and ethics that Eric Sheppard (2006: 11) has termed 'accounting for and redressing unequal livelihood possibilities'. It embraces the very many fractures in focus of a diverse group of scholars seeking thus to engage from situated places, moments and perspectives in very messy worlds. But it ought to allow us to learn from each other and continuously unsettle, re-position, re-imagine economic and geographical relations.

An embodied and situated story of politics, academia and theoretical improvisation, this thesis takes a different and wild look at economy. It knows economy differently to enact economy differently, and enacts economy differently to know economy differently. Re-reading economy

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<sup>2</sup> See *Dialogues in Human Geography* 3(2).

as in the making in this way is a challenge with which a number of economic geographers are now grappling as they ask after the development state how they might enact economy otherwise.

## **1.2. A narrative of different economies**

Timothy Mitchell (2008) draws on the classical economists to define economy as a process rather than an object (understood as ‘the economy’). Economy is a process of properly shepparding resources and the relations that have emerged around their use or are proposed for their further mobilisation, and a process that must always be as much moral as technical. In this sense it is always an assemblage of laws, behaviours, knowledges, actors, values, investment trajectories, exchanges, institutions, power relations and so on. Actualised economies, then, take many different forms, are always multiple and co-present, and always in the making. All this differs fundamentally from the mainstream, generally neoclassical conceptions of ‘the economy’, with which we are bombarded in a moment of history that sees the economy on the one hand as a singular object to be acted upon by a particular technical expertise and on the other as sovereign in social life. One of the notable strengths of contemporary economic geography is the way it confronts this conceptualisation of economy from so many different directions – from political economy to diverse economy, feminist economy, post-structuralist and post-colonial economy positions.

Cultural economic and/or poststructural economic geographers challenge dominant understandings of economy and markets. They argue economies and markets are not pre-given. Rather they attend to the processes through which these institutions take form and manifest on the ground. These accounts highlight the ruptures and uneasy and unsatisfying accounts of economy when mainstream economics and its singular definitions/categories of ‘the economy’ encounter messy, cultural and uncertain worlds. Berndt and Boeckler (2011b; 2012), Ouma (2015), and Ouma *et al.* (2013) demonstrate that whilst there are shared economic projects which seek to render messy and uncertain worlds into a singular logic of institutional economics, economy in place resists such containment. While capitalist imaginaries dominate, they are always in conflict with other worlds. There exist shared economic logics, but there is no singular or pre-given economy or market that already exists or fully succeeds.

### ***Māori economy***

Māori economy and Māori economies have specific dimensions – technical, political and moral. The values, practices and objects of Māori economies and economic exchange are situated in Māori cultural worlds. Māori economy and economy-making projects will not, and cannot, be bounded in mainstream accounts (Bargh 2011, 2012). They are situated within cultural economic aspirations for keeping Māori resources alive and generating improved Māori livelihoods. Economy-making projects are qualified and measured across multiple trajectories of value, even if some of these are capitalist and must perform in capitalist worlds of joint-ventures and required rates of return, or in state worlds of new public management. It is crucial

to be attentive to the articulation and translation work across different projects of Māori economy-making and actualised Māori economies and between them and broader economic circulations.

A vast majority of Māori economy-making projects are situated in expectations of regional economic development and enterprise in marginal contexts. The state is a major presence, commonly in partnership with Māori economic and political actors and new forms of policy intervention and investment. Conceptions of Māori economic development are shifting, unstable and subject to new shaping by favoured resources and new ‘experts’ (many themselves Māori) who exhort different ways of being economic (see Bargh *et al.* 2014). Together with state agencies and tribal authorities, these new experts (entrepreneurs, investment analysts, and business incubators and mentors) are at work mobilising and capitalising on the significant Māori economic asset base [i.e. seafood, dairy, beef, forestry, wine and honey]. Māori economy and its subjects are arguably being rationalised and made orthodox. Other places, people and objects such as taewa fall outside such projects, and sustain an alternative conception of Māori economy and continue to highlight its capabilities to be otherwise. Studying such ‘living’ and cultural agri-food economies continues to offer support for them and for rethinking opportunities in marginal settings. It forces those new experts and their backers who would capitalise (upon) Māori economy to remain attuned to the diversity and cultural vitality of Māori economy. This thesis is one such intervention in support of alternative economy-making and economic being.

### ***The Taniwha economy***

In recent years, the increasing prominence of iwi (tribal) Trust Boards and associated corporate entities as investors and entrepreneurial actors in New Zealand economies has been coined the rise of the ‘Taniwha Economy’<sup>3</sup> (Minister of Māori Affairs 2012b). Mobilising assets returned through the Treaty of Waitangi settlement process, iwi organisations have become major players in resource-based and other economies. Named to suggest its unknown and potentially disruptive qualities as well as its emergence from primordial dark depths, this economy is increasingly being made calculable by Māori, economists and state actors to ramp-up the Māori economic development agenda. Valued in capitalist terms at approximately \$36.7 billion, yet claimed to be underperforming, the Taniwha economy is managed largely by Māori asset holding tribal trusts. The five largest each have over \$500 million in assets. It is an assets-driven, consultancy-supported, largely-capitalist assemblage of Māori ownership, development governmentalities, iwi aspirations, and ready capital, and is often narrated by Māori, government and corporate interests alike as the great hope for New Zealand’s economic futures.

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<sup>3</sup> Taniwha are supernatural creatures – some terrifying, others protective – whose forms and characteristics vary according to different tribal traditions and who lurk in watery dens, rivers and caves (Te Ara <http://www.teara.govt.nz/en/taniwha>).

Operating under deeds of trust that commit their executives to produce better livelihoods for their people through sustainable use of resources, these entities are neither capitalist nor alternative. Rather, they negotiate the cultural political economy of their articulations in innovative ways (Durie 2003; Bargh & Otter 2009; Bargh 2011), and deploy or economise Māori held resources (cultural, social, physical and economic) in non-standard ways. The economies that they actualise are conceptualised, framed, categorised and managed as 'Māori'. They are understood as holistic assemblages of social, cultural, moral and political practices and aspirations as well as economic concerns, and to include non-human actors (mountains, rivers, flora and fauna, and mystical creatures like the taniwha) as well as humans. Notable investments include seafood corporations, industrial scale farming, geothermal investments, and major tourism initiatives.

While generally used to refer to the conjunction of corporate capitalism, Māori investment and state interest, the Taniwha economy intersects with Māori-led agricultural projects that utilise Māori land and indigenous knowledge to cultivate cash or community crops (Roskrug 2004; Lambert 2008). What is produced is a range of diverse and hybrid Māori economies and a hybridised sense of 'Māori economy' that positions and shapes them. However, questions about how such hybridised economies are made and actualised or interpreted and represented, are rarely asked. Composed as they are of Māori aspirations, practices and values as well as capitalist techniques and logics and market institutions, such economies are different and not all exchanges are *market transactions*. When deployed instrumentally, as in much public and policy discourse, the notion of the market consciously or otherwise occludes the complexity and richness of Māori economy and the cultural embeddedness of exchange, entrepreneurial activity, and meanings/values.

Discourses of the market, then, marginalise many of the activities and discount the values of many economy-making projects and experiments in Māori horticultural enterprise. They hide, for example, the experience of Māori vegetable networks, the practices that constitute economy-making, the richness of their social relations of exchange, and much of their cultural and political economy (McFarlane 2007; Lambert 2008; FitzHerbert 2009). This is a pivotal issue for Māori seeking to mobilise assets for new forms of enterprise. It restricts opportunities and silences aspirations as well as weakening our understanding. Questions of how to engage critically have been asked for many years in different academic literatures (Bargh *et al.* 2014; Underhill-Sem & Lewis 2008), but are now being posed in new more constructive ways (Bargh & Otter 2009; FitzHerbert & Lewis 2010). To address these issues, my research will demonstrate the breadth and depth of Māori economy-making, and expose the opportunities that lie in a deeper understanding of *difference*. Empirical research of this type promises to invigorate new thinking in this field (Reid & Prencipe 2008; Barr 2009; Barr & Reid 2014; Reid & Rout 2015), extend understandings of diverse economies and economisation, and give hope to new groups in different places around the world.

## **Taewa economy**

The taewa economy is one such hybrid Māori economy, in which Māori growers and Māori horticultural organisations *do* taewa production largely on their own terms, albeit often with state or Iwi Trust Board support. Taewa, otherwise commonly known as parareka, peruperu, riwai, or (to pākehā) Māori potatoes, come in different varieties. Each has a distinct name and appearance that distinguishes it from other potatoes. Taewa (*Solanum tuberosum*) are a valued food and are culturally significant objects. They are cultivated, valued, exchanged and consumed in an economy of gifting, market-making, and home consumption. This economy is an often collective enterprise in which the *practices, meanings* and *values* of the *inputs* and *outputs* of exchange serve to reiterate Māori identity (Roskrug 2004; McFarlane 2007; Lambert 2008; FitzHerbert 2009). What is fascinating but as yet under-investigated and untheorised, is the economy-making at work in such economies.

My research explores the making of taewa economy, and the processes of articulation between taewa economy, wider Māori economies and mainstream capitalist economies in New Zealand. Any actualised taewa economy is a Māori economy in articulation with other Māori and wider economies. It is a marginal yet rich assemblage of potatoes, people, soil, small garden plots, hapū<sup>4</sup> and hapū-iwi relations, bugs, largely unpaid labour, investment, goodwill, scientific research, free exchange, some 'market' exchange, and various connections to the State (FitzHerbert 2009). The thesis interrogates my journeys with taewa through various geographical and exchange circulations alongside key actors in this economy, Tāhuri Whenua (a national Māori vegetable growers collective), Aunty's Garden (a Māori horticultural marketing collective), and potato psyllids (insects that are currently decimating potato crops in New Zealand). The cases illustrate pivotal moments in the circulation of taewa and the assemblage of actors, aspirations, practices and relations at work. Each of these 'socio-technical collectives' allows me to explore the making of taewa economy. The approach is founded on actor-network thinking and Ian Cook's idea of following, approaches that are attuned to the action research sensitivities necessary to work with Māori.

Why taewa; why such a marginal economic object? Taewa are taonga (cultural treasures), but very much part of the everyday - they are eaten, gifted and exchanged. They are also part of Pākehā worlds, grown, purchased and even exported. They are being attacked and their economy reshaped by pests and disease, and have become subject to scientific research. They are unusual, if not hidden away geographically within Māori communities, yet relatively commonplace and part of Māori and other economies. They are embedded within some reasonably stable institutions, yet their economy is fraught with challenges and must be continuously rearticulated with other objects and actors to keep it alive. Taewa economy, then, offers a counter narrative of economy-making that illuminates the *work* of constructing economy, uncertain lines of expansion, and the challenges of negotiating articulation with other economies and reconciling human agency with the non-human. A story of taewa economy must

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<sup>4</sup> Sub-tribal kin group.

investigate human and non-human collectives, relationships, experiments, and the circulations of them. Taewa economy is always a situated *work* in progress. It is neither prefigured as alternative nor all about capitalist exchange. Thus, if my intellectual project *really* is to know economy differently, do economy differently and enact better economic futures, then taewa economy is anything but marginal. Rather, it provides a rich ground to investigate the possibilities of articulations among economies co-knowing and co-doing economy-making.

The following chapters tell of how I move with actors and objects as they move between economies, the practices that bind them together and the meanings that *become* co-constituted across their borders. This narrative is developed for the purpose of learning to know and do economy differently - to explore the un-explored possibilities of Gibson-Graham *et al.*'s diverse economy project. It allows me to see and come to know diverse economies as both emergent yet *not neatly bordered or contained*. My project is, like that of Gibson-Graham and colleagues (2013), one of *taking back*, but that which I engage enactively in taking back is an economy in articulation with others and the possibilities of performing hopeful economic futures through rearticulation of the multiple circulations of objects and values that constitute them. This a project that is situated in Māori economy beyond taewa economy, and thus in imagining, enacting and reproducing diverse economies in articulation with capitalist economies, but on terms that open opportunities for diverse economy actors to mobilise multiple relationships. The project connects to and informs economy and market making in four key contexts: post-colonial economy-making; economy-making in agrifood economies; the relationship between formal and informal economies; and state projects of economic transformation.

### **1.3. An enactive geography of Māori agricultural economies in the making**

Economic geographers are increasingly interested in the constitution of economies and markets (Thrift & Olds 1996; McDowell 1997; Massey 2005; Gibson-Graham 1996, 2006; Berndt & Boeckler 2009). In what is an emergent dialogue between political economic approaches and those inspired by poststructuralist and post-humanist approaches (see Lewis *et al.* 2015b), they have argued for pluralist approaches to reengaging with, and rethinking, economy and markets in the making (e.g. Gibson-Graham 2008; Lee *et al.* 2008; Berndt & Boeckler 2009, 2011a; Boeckler & Berndt 2013; Barnes & Sheppard 2010; Lerner 2011; Peck 2012; Christophers 2012; Lewis *et al.* 2013). In this thesis I build on this work to develop a sympathetic critique of Callon's notion of economisation (MacKenzie *et al.* 2007, Callon *et al.* 2007, Pinch & Swedberg 2008). This yields insights that challenge the capitalocentric analyses of economy in mainstream economic and popular accounts and the presumed stabilities, asocialities and instrumentalities of markets that underpin them (see Gibson-Graham 2005). These commentators point instead to the situated, diverse and in-the-making nature of economies, the socio-technical formatting, social embeddedness and embodiedness of markets, and the qualification of economic objects by multiple orders of worth, including cultural values.

By taking an enactive approach (Carolan 2013b; Lewis *et al.* 2015b), my research aims to produce an account that is neither *just* a critique nor a case study that represents the world in pre-determined categories. Rather, it is a challenge to theorise the variegated processes of economisation – a situated theorisation from a here to a there. Taewa economy registers a different conception of economisation. Not everything economic centres on market exchange, not all experts are economists and nor are economists in the wild all ‘professionals’, not all devices are about pricing models and algorithms, not all objects can be rendered passive, the biological cannot be overcome, and economy is not all about growth. Conceptual tools other than economisation are required to capture and attend to its slippages and silences. Indeed, geographers are already engaged in bringing other ideas into relation with economisation and marketisation (see, for example Ouma 2015; Berndt & Boeckler 2009, 2011a; Boeckler & Berndt 2013; Gibson-Graham & Roelvink 2010; Gibson-Graham *et al.* 2013; Gregson *et al.* 2013; Roelvink *et al.* 2015). By bringing together taewa economies and economisation, and economisation with other theoretical bodies of thought, I aim to enrich conceptions of economisation and contribute to the growing interest in economy-making in economic geography (Berndt & Boeckler 2009, 2011a; Boeckler & Berndt 2013; Gökariksel & Secor 2010; Gregson *et al.* 2010b; Christophers 2012; Ouma *et al.* 2013). The research will also contribute another strand to the diverse economies tradition in geography (Fuller *et al.* 2010; Gibson-Graham 2008), and connect with efforts to theorise the political in markets (Jackson *et al.* 2010; Leyshon & French 2009; French *et al.* 2009).

The research explores encounters from my journeys with taewa to ask about taewa economy-making as a grounded political economy in the making. I detail the diverse actors, objects, politics, practices, relations and values involved and explore how they are co-constituted in and by economy-making. I seek to grasp the co-constitutiveness of that which is brought into relation. It also allows me to register a different, enactive account of economisation that focuses attention on the articulation of diverse economies and on the potential of building connections among taewa growers separated by geographical distance, knowledge differences, and different forms of economy. My encounters, for example, reveal the establishment of connections that facilitated access to finance, knowledge and opportunities to exchange taewa and other goods. They show how taewa economy is fashioned from articulations among diverse economies, and that it has a richness in production and exchange that transcends market institutions.

Both the enactive dimensions of the research approach (joining Tāhuri Whenua, working with Aunties, moving taewa and knowledge around New Zealand, and so on) and its representational dimensions (documenting and rendering accounts of this economic assemblage) present lines of expansion for taewa economy. They promise to encourage others to take seriously its diverse forms and its value for Māori, and to investigate the possibilities that this *diversity* presents for expanding taewa economy in unexpected directions. That is, taewa economy may co-materialise with the initiatives and objects being studied. In my work, studying taewa exchange adds impetus to a Māori centric relationality to the ‘market’: inclusive

Māori-owned virtual market places, Māori producer networks and Māori brands that elaborate on kaupapa Māori (a Māori project, by, with and for Māori).

Enactive research in economic geography over the last decade has been inspired by diverse economies or community economies approaches (e.g. Cameron & Gibson 2005a; Gibson-Graham 2005; Cameron *et al.* 2014). Much of the materiality of taewa economy might be rendered knowable through such approaches, and my approach is motivated by the politics of possibility they insist lies in seeing alterity as always and everywhere present and coming to know economy differently and always in the making (Gibson-Graham *et al.* 2013). However, taewa economies are not bordered in place or political aspiration. A diverse economies approach might obscure possibilities that lie in the co-constitution of taewa economy with political and economic projects and circulations that transcend its various co-materialisations in place. Recognising and realising these possibilities demands a different politics of possibilities than that suggested in the spatially-bounded, bottom-up, and project-specific conceptions of alterity that enliven diverse economies research (see Bargh & Otter 2009). Indeed, the case of taewa economy-making has something to add to the Community Economy Collective's post-capitalist project to take back the economy. The story of taewa economy-making highlights the articulation of economies and aspirations that extend to mobilising Māori economy in market economies and points to the *work* of the Māori growers and organisation who negotiate these articulations. This political work and its economy-making effects and affect must be made visible. Taewa economy-making, therefore, points to some of the unexplored political potential of a post-capitalist politics. Indeed, recent work on the idea of foundational economy (Bentham *et al.* 2013) emphasises the sociality of economy and prefigures a politics of place centred on exploring articulations among diverse and market economies centred on an altered mandate for market exchange.

The approach I take to understand taewa economy-making frees economy in its wildest sense to emerge from the field. This approach is 'project-less'. It attempts to leave behind institutional categories and centres on the simultaneities of knowing and doing by putting myself into motion with taewa. As a result I encounter the unfamiliar and unexpected in unfamiliar and unexpected spaces. My journeys extend an earlier journey of 'learning to be affected' by taewa and its economy that began on a Northland geography field trip nearly ten years ago (FitzHerbert 2008, 2009; FitzHerbert & Lewis 2010). To know economy differently requires engaging with it differently. The relative freedoms to know by doing differently enjoyed by *economic geographers* make this journey possible. They also mean that while my own approach is idiosyncratic and full of possibility, it offers other geographers insights for engaging and grappling in their own different ways with economy-making. This thesis, then, seeks to extend both diverse economies readings of the possibilities of alterity and Callon's insistence on the in-the-making nature of economy research to a politics of possibility that lies beyond the expansionary potential of affective spaces of exception and a critique of the market framings of economics respectively. It does so by subjecting Callon to a range of generative critical reflections and through my own embodied research practice.

This research practice in turn, pushes (and disrupts) the *boundaries* of participant action research and responds to (and reiterates) the current call for an ethnographic turn in geography. By putting myself in motion, I challenge participatory research practices to consider their claims and privileged positionalities with respect to the world and the politics of others, especially in post-colonial settings. This approach directs me to ask, if we are to make worlds (with others), who should we do this with, on what (who's) terms, and in whose registers of value. My answer is to *do* the *enactive* [both theoretically and methodologically] in forms and practices that are at least co-constituted by the wild (see Carolan 2013b). Escaping the bounds of institutional or research projects is no easy feat given the institutional pressures on academics, here I embrace the relative freedom of my position as a doctoral candidate and the freedoms of economic geography to give myself over to the field. As such, whilst this thesis may be a little *wild* and, on the whole, not reproducible, it performs *practices* that might be taken elsewhere to level out asymmetries between the institution and the field; practices that have taken me to different spaces and on different journeys to know economy differently. This takes enactive research beyond the troubling reification of the researcher subject position as well as the project(s) of economic geography, and towards a more thorough challenge to how we know economy and might help fashion better economic livelihoods for others.

#### **1.4. Studying taewa economy-making: What? How? Where? Why?**

My research is committed to understanding economy in support of initiatives in Māori political economy. My approach sees economy as emergent and un-bounded, but deeply situated. *I ask how different circulations and institutions of economy-making are co-constituted in agri-food networks.* My aim is to reveal *how* taewa economy-making is *done*. Alongside commitment to the immediate politics of possibility in Māori worlds that an enactive engagement with this question and the practices of economy-making aims to foster, the thesis asks broader questions about economy-making, the articulation of diverse economies, and the performance of non-human objects and actors in economy-making.

##### ***What?***

My starting point is that actualised economies are co-constituted by a multiplicity of diverse institutions, actors, experiments, meanings, practices and values. In short, my hypothesis is that taewa economy is constituted by objects, actors and collectives *in motion*; the measures, values, aspirations, relations and institutions in and by which they are framed as they enter circulation, the socio-technical regimes that emerge around them; and the circulations themselves through capitalist and diverse domains. Movements, encounters and the relations established involve considerable negotiation, among Māori, between different Māori groups, between Māori and capitalist actors, between Māori and scientists, between Māori and state agents, and between Māori and non-humans. To see (or not) this economy-making, I investigate three different framings of taewa circulation: Tāhuri Whenua, Aunty's Garden and the work of the potato psyllid. Each frames economy differently. Exploring Tāhuri Whenua highlights institutional and

political work in fostering, securing and expanding taewa circulation. Aunty's Garden focuses attention on collective experimentation market-making in the wild, and projects of articulation. The framing work of the potato psyllid, an insect which kills taewa plants and infects taewa seed, focuses attention on the biological economy of taewa economy (see Lewis *et al.* 2015b), contingency, the work of the non-human, and disruption and disarticulation.

These framings each provide a different but relational cut into knowing taewa economy. They highlight different dimensions of taewa economy, different moments, spaces and practices of taewa economy-making, and different co-constitutive relations or assembling forces. Tāhuri Whenua points to institutional framings, political projects and articulations of tacit and codified knowledges and garden-centred taewa economy with state and Taniwha economy. Moving with taewa through relations framed by Aunty's Garden points to experimentation and the reframing of state development projects and capitalist economies. The potato psyllid points to the assembling, framing and articulating work of non-human agents in bio-social-technical-agencements, the tensions between indigenous and scientific knowledge, and the bio-sociality of economy.

### ***How and why?***

Counter to dominant economic conceptions in which markets are seen as pre-figured and neutral, I examine these three framings for evidence of the co-constitutiveness of diverse exchanges, institutions, and human and non-human objects. Beginning with insights derived from cultural political economy (Jessop 2006), post-structuralist political economy (Lewis *et al.* 2015a) and actor-network thinking (Latour 2005) I examine economy as a relational configuration of interactions among human and non-human actants in motion. Economy is necessarily and always in-the-making. To know it requires the observation of *things*, their movements, the moments and nodes around which these take form and the meanings that are enacted as a result. Following cultural political economy and post-structuralist political economy approaches, however, I recognise that as assemblages of these objects, movements and relations, markets and economies are all constituted by strategically selected economic, cultural and political imaginaries and their sedimentation in meanings, values and practices, the work of which is often carried in established investment trajectories, place based values and categories of knowing and doing economy. Economy has to be thought otherwise to be redone, and vice-versa.

Understanding actualised economies as 'socio-technical collectives' of human beings, their institutions, organisations and behaviours, and material, technical and textual devices that are tentatively qualified as 'economic' (Çalışkan & Callon 2009: 370), allows for an exploration of this co-constitutiveness. The theory of economisation from which this concept derives, however, privileges the technical basis of this co-constitutiveness over its embodied and culturally embedded socialisation. To address this (over)privilege I engage Callon's ideas with Miller's perspective on materiality, Mitchell's rethinking of economy, Haraway's notion of situated knowledge, and Thévenot and Boltanski's notion of regimes of worth as well as Gibson-

Graham's diverse economy politics of possibility. What ensues is a rich debate about the relative significance of the technical and the cultural in framing economy and the constitution and work of economic categories and subjects, but a shared recognition of the relationality and emergence of economy, and a concerted critique of the conservative closures of economics and its inability to re-know and re-socialise economy.

Bringing these ideas together extends the analytical and conceptual armoury for considering economy in-the-making. It allows me to grapple with the more-than human, cultural and textual geographies of taewa circulation as well as the political and economic geographies at play. It allows for an analysis of agricultural economy-making in the wild as well as projected and institutionalised forms. Measures and material objects (human and non-human) are granted agency while exchange and circulation are seen as constitutive and meaning producing rather than simply rules or backdrop. Economies are thus seen as *different* and always in the making.

### ***Where?***

My *project-less* researcher subjectivity [neither framed by 'the institution', 'the project', or 'disciplinary canon'] enabled me to journey with and alongside taewa, taewa growers, Māori organisations, Māori market-making experiments, and insects for the past five years. Using Cook's idea of following, I follow myself and the objects, actors and relations with which I journey. On this journey I have been a grower, exchanger (of potatoes and knowledge), a mediator and a connector, and a co-producer of knowledge. I have learned to be affected, and to know and do taewa economy. I understand my journeys as a project-less project (and unprojected form of ethnography); and my encounters as an *embodied actor-network*. The approach is a wild form of research, in which I give myself and my research up to be co-constituted with others. It seems to have worked. I have been enrolled by Māori, and invited to act in this economy and given freedom to journey alongside objects and people and *to be* in the sites and moments of economy making; and I am still there.

Tāhuri Whenua is based in Palmerston North, the main centre in the Manawatū region. It was through work with Tāhuri Whenua, a pivotal institution of the taewa economy, that I began my journeys with the organisation itself as well as Aunty's Garden and the destructive potato psyllids. Each of these journeys provided different entries into economy-making, even if they commonly involved encounters with the same taewa and organisations. They have taken more than five years and continue, albeit with diminished intensity. Each was largely open and unplanned, although this wildness was tempered by prior relationships with key actors established through earlier research (FitzHerbert 2009). I followed taewa, growers, knowledge, and relations and investigated my encounters with objects, subjects, political projects, economic experiments and articulations across economies. I collected data from these encounters: documents, artefacts, numbers, experiences, observations, and field notes.

Established in 2001, Tāhuri Whenua has over 300 members (incl. growers, Māori organisations, schools, scientists and students). It constructs spaces in which Māori come together to formulate and consider shared matters of concern (Māori vegetable futures, seed, pests and diseases, research, Treaty of Waitangi considerations, traditions, values, investment etc.). Overseen by a committee of elders, it is also a formal organisation that represents Māori growers and communities in wider political debates about horticulture and rural spaces. The collective aims to attract Māori onto Māori land and support their growing activities, whether they be small-scale, large-scale, commercial, marae (ceremonial centres) and/or whānau (family). In so doing it juggles commitments to different forms of taewa economy (i.e. organic, conventional, marae-based and so on) and is a significant agent of articulation, through its promotional and educational work as well as its active and collective experimentation with distribution, taewa seed and garden establishment. It commissions and carries out and disseminates research, bringing Māori cultural political economies into articulation with science economies and development projects. Journeying with Tāhuri Whenua took me from Manawatū, to Whanganui, Hawke's Bay, Bay of Plenty, Taranaki, Hastings, Bulls, Kaikohe, Banks Peninsula, and Northland.

In these journeys, particularly those to Hawkes Bay, I routinely encountered Aunty's Garden Ltd, a Hastings based experiment in establishing an internet-based market platform for Māori vegetable producers. This market-making experiment has sought to collectivise producers, promote a Māori vegetable brand, and take Māori vegetables and their growers to the market. Its supporters, Kahungunu Asset Holding Company (KAHC) and state agencies Te Puni Kōkiri and the Māori Economic Taskforce envisaged Aunty's Garden as a market-making experiment to bring taewa economy into the orbit of the Taniwha economy. Ngāti Kahungunu have played a role historically in horticultural production in the Hawkes Bay as land owners and growers, and have recently become an important corporate food actor in the region. KAHC manages iwi assets and its corporate activities but retains commitments to fostering multiple small-scale initiatives in the production of vegetables for subsistence and cultural as well as commercial purposes. Aunty's Garden mixes commitments in this regard to new Taniwha economy imaginaries (commercialisation, entrepreneurialism, innovation, branding, technoscientific innovation, and exporting). It involves KAHC, the state, commercialisation, branding web design experts, professional management consultancies, Tāhuri Whenua, market devices, growers, Aunties, and Māori vegetables. I journey with Aunty's Garden from its conception to its materialisation in a set of *failures/successes*. This journey centred on key nodes: the gardens of its organisers (Hastings, Porangahau), its hui (meetings) (Manawatū, Auckland, Hawke's Bay, Taranaki), its 'Aunties' (the growers in Hastings, Bulls, Palmerston North) and its virtual worlds (auntysgarden.co.nz, twitter, facebook, youtube).

Potato psyllids are potato pests and are recently arrived in New Zealand. The insect and its associated virus (Lso) has decimated taewa crops across Aotearoa New Zealand. My journey with psyllids (at times quite literally carrying them along in my briefcase) demonstrates how the non-human can reassemble economy and actualised economies. It points to how the non-

human (re)assembles economy, and how it too can articulate diverse and capitalist economies (potato, state and science). I journey with the psyllid through encounters with and circulations around Tāhuri Whenua, growers and scientists. I am relatively certain I exchanged infected seed with growers. Again the journey has key (geographical) nodes: Tāhuri Whenua hui (i.e. Manawatū, Hawke's Bay, Whanganui, Bay of Plenty, Taranaki), genetic seed testers and growers (i.e. Banks Peninsula, Hastings, Manawatu, Kaikohe), and appearances as a matter of concern in the broader New Zealand potato research project (i.e. academic publications, industry reports, government reports).

In each journey I moved from and back to these various nodes, entangled in the web of relations, transformations (in form and place) and values that constitute taewa economy. The journeys shared social and spatial settings, fellow travellers and constitutive dimensions, but had distinctive dimensions. Each took me around important constitutive sites and moments of taewa economy and illustrates different dimensions of this economy. Each offers a different way of seeing and knowing the constitution of economy and the social-technical collectives that articulate different economies.

## **1.5. Structure and outline of chapter arguments**

This thesis argues that economies are in the making and co-constituted by multiple circulations of actors, objects, values, projects and politics. The argument is worked through theoretically in Chapter 2 by bringing a suite of theoretical reflections on economy making to Callon's central idea of economisation. Each of these reflections adds a new dimension to the critique of mainstream conceptions of the universality, instrumentality, and neutrality of markets, and each offers an intervention that enriches understandings of economy-making as the work of socio-technical collectives. Each is presented and issued as a provocation to economisation. Later chapters develop the argument empirically through a discussion of economy-making in different taewa circulations against the background of Chapter 3, which presents an historical cultural political economy of taewa economy. Chapter 3 elaborates on the genealogy of the Taniwha Economy project, and taewa economy as a set of historical relations and practices. This chapter discusses the articulation of diverse Māori economies with capitalocentric development discourses and efforts to decolonise economy.

Chapter 4 lays out the methodological strategy utilised in this research. The first section discusses the challenges of conducting research with Māori as a Pākehā and the necessary sensitivities and enactive dispositions required. These include being project-less and committing to journeying with human and no-human others along routes set by them. By journeying, I moved with Māori, through these spaces and took part in economy-making practices. My understandings were derived in the wild. I develop an account of this approach as an ethnography of journeying *with and through* different circulations, a journeying guided by learning to be affected and one that yielded an embodied actor-network.

I give accounts of three journeys: my work with Tāhuri Whenua to sustain and expand taewa economy through knowledge production, seed distribution and relationship building projects (Chapter 5); an account of Aunty's Garden that focuses on market-making experiments in Māori agrifood economies that have come to entangle garden and marae-based economy with capitalist circulations and the wild with more projected economy (Chapter 6); and an account of how the agency of the non-human (the potato psyllid in relation to the taewa) and the socio-biological politics that mediates this agency unsettles and reconstitutes the bio-social-technical regime of taewa economy (Chapter 7). The final Chapter interrogates these journeys collectively. It argues that situated economy-making is given form by diverse actors, vital materialities, and complex relationalities and matters of concern. It suggests that the possibilities of economy-making in contemporary taewa economy situated across the articulations of diverse, state and capitalist economies depend on effective institutions and collective experimentation in the presence of shifting human-non-human relations. Chapter 8 also develops an argument for the value of project-less journeying marked by encounters in the wild and a radical openness to learning to be affected, and thus in turn for an ethnographic approach to come to know economy differently. The chapter finishes with a consideration of theoretical contributions in terms of articulation and lines of flight, taking back economy, and rethinking economisation. I ask whether the lesson for economic geography is that the economy is not 'the economy', stupid.



## **Chapter 2: Knowing cultural political economies and economy-making: a theoretical assemblage for engaging and journeying with taewa circulation.**

The question of how, and with what consequences, economy is thought and rethought has been posed across economic geography (Sheppard & Barnes 1990; Leyshon *et al.* 2003; Hudson 2004; Coe *et al.* 2007; Gibson-Graham 1996, 2006; Thrift 2005; Lee 2006; Peck & Theodore 2007; Hughes 2007; Lee *et al.* 2008; Berndt & Boeckler 2009, 2011; Peck 2012; Christophers 2012; Barry 2006, 2013; Boeckler & Berndt 2013). In recent years a number of geographers have turned to the ideas of economisation to understand how exactly actually existing economies (and markets) are constituted and economic entities are put to work (Berndt & Boeckler 2009, 2011; Boeckler & Berndt 2013; Gibson-Graham 2008; Christophers 2014a; Ouma *et al.* 2013). They start from a concern for the too often taken-for-granted conception of markets and economy. These geographers attend to the processes and spatialities through which particular ideas, objects and spaces are qualified as, and become, economic. It is in the tradition of economisation that this thesis sits. However, in the case of Māori potato economies, economisation is not enough. Indigenous diverse economies are a new place for economisation. And, it has to be the case that I bring new things (ideas and fields) to economisation in order to make sense of the complex diverse, situated, negotiated, no-human worlds of Māori potatoes.

I understand economy to be generated out of socio-technical assemblages, experimentation, and collective calculation. These are co-constituted by diverse humans, non-humans, values and places, whereby the relationality between these dimensions give form to particular, negotiated and situated circulations. Any actualised economy is a set of circulations, stuff is in motion, unbounded, contested and not pre-figured. Rather it arises from and gives rise to uncertain emergences. Economy is an unstable category - it is living, in-the-making and incomplete. Mainstream categories and framings do not do enough to capture agency in the making of economy, while political economy accounts tend to underplay the relationality of different economies to each other [and its possibilities]. To attend to Māori potato economies I develop an approach that sees circulation as emergent and articulation between and across economies as a necessary negotiation to keep things moving. The challenge is to find a framework that provides tools to think away from my journeys with taewa through which I have come to know economy making.

My hypothesis, in a sense is that there exists a Māori potato economy. It is deeply Māori, a diverse and moral economy [but marginal], which articulates with other economies. It is different, social, cultural, natural and political. It is subject to the State and the non-human. Markets are not everything, not all exchanges and circulations are market driven. The spaces and dimensions of its making are co-constituted by diverse bio-sociotechnical arrangements,

assembled by diverse relations, flows, practices and nodes of articulation. The question of *how are different practices of circulation and articulation co-constituted in Māori agricultural networks* requires me to assemble together different theoretical trajectories in the literature to understand cultural political worlds and economy-making.

An antipodean geography centred on the notion of southern theory (Connell 2007) licence me to bring different bodies of knowledge into a productive dialogue. My project applies a weak theorisation approach, whereby I see everything as partial, everything as particular [and situated], and theorise from the empirical (Connell 2007; see also, Gibson-Graham 2006, 2014a; Lerner 2011, Lewis *et al.* 2013). I draw largely from Latour's actor-networks, and particularly Callon's notion of economisation as a way of accounting for the unfamiliar and unregistered economic actors, objects and practices of Māori economy and their relations, which do not fit into a neatly bordered world/economy and/or bordered conception of economies/worlds. The economy they constitute escapes easy categorisation – it is, for example, neither capitalist nor non-capitalist, and neither community nor mainstream. The language of economisation offers a more generative and compelling account of its complexity that allows us to see layers of effort to make the incommensurable commensurable. My response is to bring different theoretical ideas to economisation so as to enact a productive dialogue that enriches its insights. The resultant theoretical assemblage provides me with tools to grapple with, illuminate and make sense of economy-making in the complex and emergent cross-cultural worlds of Māori potatoes.

This thesis, then, seeks to theorise economy-making in (and through) Māori potato economies. Working from a trans-disciplinary and post-structuralist position, this chapter is written in three parts. The first examines three approaches to theorising more-than-economic worlds, cultural political economy, actor-network thinking, and post-structuralist political economy. Each of these approaches starts from different epistemological and ontological positions, but focuses attention on the simultaneity of the cultural, political and economic as a framework for the making of economies. The second the idea of economisation as developed in the work of Callon and colleagues and those economic geographers who have begun to work with their ideas. The third considers five more specific trajectories of thought that have in some way inform the more nuanced account of economisation necessary to identify and address matters of concern in the making of Māori potato economies. Each has something different to say to economisation and is treated as offering a way out of criticisms levelled at Callon's conception of economisation, and I present them here as provocations with which I will work in later chapters. The provocations are presented as emerging from the work of Mitchell (2008), Haraway (1988, 2008), Gibson-Graham (2006), Miller (2005) and Boltanski and Thévenot (2006[1991]).

Assembling such an extensive and diverse set of theoretical trajectories is a risky move. To fully develop the work of so many theorists is beyond a single thesis. However, each has something different to say. Each author addresses different subject, objects and spaces of

economy, sees the world differently, and makes different claims about how economic worlds are made. While their foci diverge in emphasis and on certain key points, they share a concern for the co-constitutiveness of culture, economy, and political realms and draw certain shared insights that present openings for (re)thinking economisation and economy-making. It is not my intention to build an alternative metanarrative that dissolves the different insights and their often contradictory onto-epistemological starting points, but to assemble them into a generative contribution to economisation thinking that extends conversations in a pluriversal economic geography (see Peck 2005, 2012; Lee *et al.* 2008; Berndt & Boeckler 2009; Barnes & Sheppard 2010; Hall 2012; Larner 2012b) and provides ideas with which to work in an enactive accounting of (and for) Māori potato economies. This theoretical assemblage resources me to understand my encounters and journeys with Māori potatoes and to grapple with the complexity of what I encountered, particularly the way Māori potatoes circulate between and around different worlds and qualification/valuation.

## **2.1. For understanding cultural political worlds: framing ideas**

To understand the cultural political worlds of Māori potato economies I draw from Cultural Political Economy (CPE), Actor Network Thinking (ANT) and Post-structural Political Economy (PSPE). They help make sense of the different relationalities among different governmentalities, political projects, cultural values and agentic interventions in Māori political and cultural economy and to understand their interplay.

### **2.1.1. Cultural Political Economy**

Cultural Political Economy (CPE) was developed by scholars (in particular geographers) at Lancaster University, United Kingdom. CPE is a theoretical approach rooted in a realist tradition. It analyses the variation, selection, and retention of economic and political imaginaries and their cultural implications for economic, political, and social transformation (Jessop & Sum 2001, 2003, 2006; Jessop 2004, 2006; Jessop & Oosterlynck 2008; Sum & Jessop 2013). CPE attends to explaining why only some economic imaginaries among the many that circulate come to be selected and institutionalised, thereby coming to co-constitute economic subjectivities, activities, organisations, institutions, structural ensembles, emergent economic orders and their social embedding, and the dynamics of economic performance (Jessop & Oosterlynck 2008: 1156). These are mediated in and through distinctive forms of political economy. CPE investigates the constitutive role of semiosis (signs, in the production of meaning) in economic and political activities, economic and political institutions, and social worlds [ordering] more generally. CPE offers me an insight into the *work* diverse [state and Māori] economic imaginaries do to give shape to the Māori potato economy and their affect on its sociality and materiality.

CPE has four standpoints that distinguish it from traditional political economy. CPE follows a Marxian and Gramsci approach (among others) and studies the state in its inclusive sense (i.e. political society + civil society) as a social relation. As such CPE registers discursivity

and agency, and the state [and economy] as an emergent, relational, embedded, contested and co-performative process. Secondly, it opposes transhistorical analysis, insisting that both history and institutions matter. CPE takes a strategic-relational dialectical approach to understanding path-dependency and path shaping in relation to the evolutionary mechanisms of variation, selection, and retention. Jessop (2008) argues that this calls for serious analysis of both semiotic and extra-semiotic dynamics. He stresses the materiality of social relations but highlights the semiotic structuring of constraints and possibilities involved in processes that operate 'behind the backs' of the relational agents. Jessop (2008) argues this distinguishes CPE from critical discourse analysis, which largely focuses on specific texts to undertake static comparative analyses of selected texts at different times, or to study linguistic corpora over time. CPE, by contrast, is interested in the variation, selection, and retention of different discourse and, in this regard, is concerned with their extra-semiotic as well as semiotic features (Jessop 2008: 237; Jessop & Oosterlynck 2008). Thirdly, Jessop attempts to position CPE in the cultural turn, thus highlighting the complex relations between meanings and practices. He suggests that the production of intersubjective meaning is crucial to the description, understanding, and explanation of economic and political conduct just as it is for other types of behaviour and their emergent properties. While semiosis initially refers to the intersubjective production of meaning, CPE thus recognises it to be also a necessary element/moment of 'the social' more generally. That is, like structure and agency (and other strategic relational dualities), the social and cultural are dialectically related moment of the world (Jessop 2008: 237; Jessop & Oosterlynck 2008). Then finally CPE focuses on the co-evolution of semiotic and extra-semiotic processes and their conjoint impact on the role of semiosis in the critique of political economy (Jessop & Oosterlynck 2008).

As a result, CPE differs from traditional [orthodox] political economy perspectives, which tend to *naturalise or reify its theoretical objects* through the application of universalistic categories (e.g. land, the division of labour, production, commodities) and methods (i.e. discourse analysis). They thus tend to offer thin accounts of how subjects and subjectivities are formed and how different modes of calculation emerge, come to be institutionalised, and get modified in spatio-temporal settings (Jessop & Oosterlynck 2008). Jessop (2004) claims, orthodox political economy approaches miss the constitution of particular social objects, subjects and their co-constitution and co-evolution in wider assemblages of social relations. Instead CPE situates the state and its subjects in broader economic, political and socio-cultural contexts, and applies evolutionary and institutional political economy to the cultural turn. This highlights the complex relations between meaning and practice and the role that history and institutions play in economic dynamics, attending to the constitution of particular social [and economic] objects and subjects and their co-constitution and co-evolution in wider assemblages of social [and economic] relations (Jessop 2004).

Taking a CPE perspective, therefore, points to asking how technical and economic objects are 'socially constructed, historically specific, more or less socially embedded in – or disembedded from – broader social networks and institutional ensembles (assemblages), more

or less embodied and 'embrained' in individual actors, and require continuing social 'repair' work for their reproduction' (Jessop & Oosterlynck 2008: 1157). CPE's notion of economic imaginaries is particularly significant for thinking how and why certain economic ideas co-constitute action and economic forms in Māori potato economies, and similarly the interventions in Māori economy. Accepting the world as complex, CPE offers the idea of economic imaginaries as a way to think and explain how the world is navigated by cognate complexity reduction as a condition of social action (Jessop & Oosterlynck 2008: 1157-1158). In the sense that, actors [and institutions] *choose* particular ideas and these inform [and constitute] their practices/projects. This perspective assumes that 'complexity reduction involves discursively-selective imaginaries and structurally-selective institutions' (Jessop & Oosterlynck 2008: 1157). Imaginaries are semiotic systems, providing the basis for 'the lived experience of an inordinately complex world', through which institutions seek to embed in broader social relations, in an attempt to render lived experience consistent across different social spheres [i.e. the economy is this, economic practice is this, markets are this] (Jessop & Oosterlynck 2008: 1157). Arguably the New Zealand state seeks to dissolve the difference between capitalist economy and Māori economy, and proliferate the capitalist economy as the economy (Bargh 2007). The notion of economic imaginaries offers an entry point into understanding both Māori economy and State intervention(s); that is, they can have economic, political and intellectual force (Jessop 2006; Sum & Jessop 2013). Economic imaginaries are semiotic orders: specific configuration of genres, discourse and styles which co-constitute the practices of a given social field, institutional order or broader social formation. Thus economic imaginaries articulate various ideas [often narrow conceptions of economy as capitalist] which reduce complexity, becoming performative of a particular conception of economy. The *imagined economy* becomes discursively constituted and materially reproduced on many sites and scales, in different spatio-temporal contexts, and over various spatio-temporal horizons (Jessop & Oosterlynck 2008). As Jessop and Oosterlynck claim:

Any given economic [or political] imaginary is only ever partially realised, those that succeed, at least in part, have their own performative, constitutive force in the material world – especially when they correspond to (or successfully shape) underlying material transformation, can mobilise different elites to form a new power bloc, can organise popular support, disorganise opposition, and marginalise resistance (2008: 1160).

This provides an insight into the articulations among Māori economy, understood as culturally embedded economic practice commonly carried out in local areas, capitalist economy, and the emergent Taniwha economy, as projected by the state, economists and Māori elites. The tensions between being capitalist or not are not straight forward, as Māori seek to negotiate multiple economic imaginaries and perform the Māori economy for and across Māori cultural economies and State capitalist economies. CPE draws attention to that fact that certain economic imaginaries are selected/privileged over others, but this does not mean they become successful in performing and/or rendering different cultural economic worlds [i.e. values, practices and ideas], as will be shown in the case of Chapter 6.

CPE highlights the contestation between imagined economy and actually existing economy and the significance of the interplay between agency and structure among institutions, ideas and practices. Importantly, as Jessop & Oosterlynck (2008) claim there are always things which escape any attempt to identify, govern and stabilise a given economic arrangement or broader economic order. There are indeed competing economic imaginaries, competing efforts to institute them materially, and the inevitable incompleteness, such that [Māori potato] 'economy is only ever partially constituted' (Jessop & Oosterlynck 2008: 1158). A CPE approach recognises the different conceptions of economy [and their tensions] at work in and on the Māori potato economy. The crucial question is how these become (or do not) in Māori worlds, but no less structure economy-making. Standard political economy does not capture this complexity and tends to reify capitalism and neglect the performativity of different economic imaginaries as they constitute taewa cultural-political economies.

### **2.1.2. Actor-Network**

Actor-network thinking (ANT) was developed by French scholars in the 1980s. As a way of thinking, ANT has dominated poststructuralist accounts of the world, and has been particularly influential in geography's cultural turn. Three articles demarcated the emergence of ANT (Callon 1986, Law 1986a, Latour 1988). ANT examines the construction of social and material realities from relations among human and material worlds. Rather than attempt to provide a sociology of 'the social', ANT focuses on the sociology of associations – the relations constitutive of an actor and/or object. It attends to the creation, maintenance [and coordination (Mol 2008)] of the relationships constitutive of actors [human and non-human] and objects [a state of affairs, or more recently presented as a matter of concern] (Callon 1986; Latour 2004b, 2005; Law 1986a, 1992). These relations define networked social worlds (Law 2002). ANT focuses attention on the work, movement, and flows of objects as a way of understanding a particular 'state of affairs' (Latour 2005: 144). To know actor-networks implies the observation of things, their movements, the meanings that are enacted as a result, and the moments and nodes around which meaning and moments take material form and coalesce. In particular ANT encourages us to recognise economy as an emergent state of affairs [and a matter of concern] assembled from, and by, diverse relationships between human and non-human actors within and beyond Māori cultural-political worlds.

ANT is not an theoretical explanatory tool to develop causal explanations and nor is it a consistent method (Latour 2005; Callon 1999; Law 2009; Mol 2010). As Mol points out:

ANT is not a theory. It does not give explanations, and neither does it offer a grid or perspective. Since 'ANT' has become an academic brand name, many authors start their articles that they will 'uses-actor network theory'. Let me disappoint them: this cannot be done. It is impossible to 'use ANT' as if it were a microscope. 'ANT' does not offer a consistent perspective (2010: 261).

Rather, ANT's founders propose it offers people an inventory for thinking about and presenting the world. As Mol suggests, 'the art is not to repeat and confirm, but to seek out cases that contrast with those that came earlier... the point is not to fight until a single pattern holds, but to add on even more layers, and enrich the repertoire' (2010:261). The approach provides me with a set of sensitising terms, ways of asking questions and techniques to understand how Māori potato economies are assembled, held together, expanded and become reassembled. In relation to terms, it focuses on phrases of things *becoming* and their relationality to other things. Ways of asking questions: what holds x [e.g. potatoes] and y [people] together?; How are they held together?; What is it to hold x and y together?; and, How does z get meaning? And, techniques: rich descriptions and explaining away rather than to the field (Latour 2005).

ANT recognises the co-existence of heterogeneous actors and different realities and does not seek to force them into a single pattern or frame of analysis. Rather ANT helps identify the multiplicity of actors and their relationality to understand how things emerge (or not) as a result. This makes it possible to identify and understand the numerous layers these produce. Latour (2005) suggests forgetting the idea of a network, as this has tended to be read and applied as something discrete, stable and contained. Rather he suggests these should be thought of as *work-nets* whereby numerous actors are doing stuff, negotiating relations and assembling *something*. In relation to being an *actor*, Callon and Law point out:

(there is) the possibility that agency is an emergent property. That to be an agent... is a form of action that derives from an arrangement [or agencement]. That, by themselves, things don't act. Indeed, that there are no things 'by themselves'. That, instead, there are relations, relations which (sometimes) make things' (Callon & Law 1995: 484-485).

And, Latour:

An 'actor' ... is not the source of action but the moving target of a vast array of entities swarming toward it... To use the word actor means that it's never clear who and what is acting when we act since an actor on stage is never alone acting ... the very word actor directs our attention to a complete dislocation of the action, warning use that it is not a coherent, controlled, well-rounded, and clean-edged affair. By definition, action is dislocated. Action is borrowed, distributed, suggested, influenced, dominated, betrayed, translated (2005: 46).

As such, an actor is a heterogeneous coming together of various elements, which are arranged in such a way that it maintains some form of coherence [i.e. an agencement]. This points to the constant becoming of an *actor* and/or the *thing(s)* assembled, which may only hold together as an actor and/or particular state of affairs for a moment before it becomes reassembled as *something* slightly [or drastically] different. It is the relationality between actors that matters, such that agency across human and non-human actors, is relational and distributed. This is central to ANT's notion of translation, whereby things move and are moved, are related and become related [or unrelated] to become *something*. Mol (2010) suggests ANT thinkers

seriously consider *co-ordination* in terms of how something hangs together: this she claims 'does not evoke a single, overarching and coherent order in which everything fits just fine and friction-free like the bits and pieces of a mosaic ... Instead, the term co-ordination suggests continuing effort. Tensions live on [between actors] and gaps must be bridged, hence the need for *co-ordination*. Co-ordinating efforts may take many forms' (Mol 2010: 264).

ANT itself has traversed and been translated through the social sciences. Its application and understanding has morphed and been redefined often without conversation as to its original 'purpose'. The wide application of ANT in the social sciences is itself testament to the translation that ideas and objects undergo as they come into contact and get picked up in new sets of relations (and proliferate and translate). This focus on translation and continuous reassemblage meant that ANT's original authors never described it or meant it to be adopted as a 'prescribe-able template' (Latour 2005; Callon & Law 2005; Law 2009). Indeed, Latour has questioned the usefulness of the term and the naming itself (see for example, Latour 1999, 2005), and Callon and Law in recent years have tended to shy away from explicitly labelling their work as ANT related. As a result, ANT has been widely criticised for failures as a robust theory of the social, criticisms that miss the point of its purpose as understood by its authors (see, for example Law & Singleton 2013). The most pointed critiques point to ANT's horizontal (flat ontological) approach (between things) and its privileging of the micro over the macro, which critics argue make ANT as apolitical and inattentive to power relations (see, for example Swyngedouw & Heynen 2003; Fine 2003a, 2004; Sunley 2008; Whittle & Spicer 2008; Alcadipani & Hassard 2010;), as well as ahistorical (Haraway 1997; Fuller 2000; Chakrabarty 2000; Miller 2002; Castree 2002), and acultural, particularly in non-western worlds (Chakrabarty 2000; Castree 2002; Miller 2005a; Mukhopadhyay 2014).

Somewhat ironically, given this critique, I intend to use ANT both as tool for describing and giving occasion to the various actors, actions and layers of Māori Potato Economy, and by tracing the relations, and the work these do, to reveal politics and culture in *how* objects come to be. In the case of taewa economy-making the state and other powerful actors do indeed give form and seek to inform the circulation and articulation of taewa. They can be read at the level of intervention, research project and funding injection as 'micro' and heterogeneous in the becoming of Māori potato worlds/agencements, and in interaction with other subjects and objects part of agencements and economy-making mediations.

In my methodology of journeying with taewa circulations (through both following, embodying and learning to be affected), I propose this can reveal who and what is acting, and more importantly, I argue, that following can flesh out and demarcate the places and spaces in which values and meanings change, and read them in both in their immediate context whilst always recognising there are bigger agencies at work. Hence, my task involves recognising both micro and macro politics and not privileging one over the other, and seeing taewa circulations (actor-networks) as emergent (not static), situated (in the making from *somewhere* and in relations to *elsewhere*) and permeable to actors and relations (from within and beyond taewa

agencements). Economies and their making are not homogenous, they are ambiguous, temporal and spatially located within a multitude of spaces. Adopting Latour's (2004b) phrases of 'hybrid collectives' and 'matters of concern', it is in this sense that economy-making is registered as a more-than human *work* for investigation and interpretation. Situating economy-making as a matter of concern is a large project, economy-making in Māori potato economies involves diverse actors, relations and aspirations and many uncertainties. In applying actor-network thinking I theorise the actors, relations and institutions around the circulation of taewa economies as in the making that are performed and enacted through mobile actors, meanings, values and institutions.

### 2.1.3. Post-structuralist Political Economy

*How and what do economic geographers understand of the roles they do or could play as they seek to make progressive interventions [both in the literature and in-person]? (Le Heron 2009:138)*

Post-structuralist Political Economy (PSPE) is a recent school of antipodean thought developed by economic geographers at The University of Auckland, New Zealand (Larner 1997; Larner & Le Heron 2002a, 2002b; Larner *et al.* 2007; Le Heron 2007; Lewis *et al.* 2008) and has been extended with Australian economic geographers (McGuirk & Dowling 2009; McGuirk 2012; McGuirk & O'Neill 2012). PSPE is a knowledge production project that 'aims to develop deeper and more productive interrogation' of political and economic projects, for example neoliberalisation and globalisation (Le Heron 2009: 136; Larner 2011; Le Heron & Lewis 2011). PSPE weds together poststructural thinking [i.e. diverse economic geography] and political economy [mainstream economic] in an attempt to reveal possibilities, contextualise moments, and discern [interventive] politics. Whilst not wedded to a particular theoretical trajectory, PSPE has drawn on (and still does) ideas of governmentality, situated knowledge, assemblage, actor-networks, performativity, cultural political economy, and moral economy, and applies these to revealing the co-constitution of economic and political processes and identities, and how these look and work differently in different places (see for example, Larner & Le Heron 2000a, 2002b; Larner 2011; Lewis *et al.* 2015b). As a *knowledge production practice*, PSPE draws on the claims of Callon (2007), Law & Urry (2004) and Busch (2007) that enacting social realities depends on what knowledge is produced (Le Heron 2009). As a *knowledge production project*, PSPE 'emphasises the generation of situated knowledge production capacities and capabilities. A guiding maxim of PSPE is that economic geographers need to know much more about how explicitly developed representational and non-representational knowledge might be used' (Le Heron 2009: 136). PSPE sees processes (i.e. globalisation, neoliberalisation, governance) as emergent, and research as enactive, whereby it is possible to disrupt dominant discourses and show the hybridity of processes across space.

A central theme in PSPE is the notion of *projects*, in particular political projects. This couples together 'the political with an open and evolving notion of purpose', which 'can be viewed as a speculative imaginary or governing mentality ... (and) are both constituted and

constitutive' (Le Heron 2009: 140). PSPE sees projects as 'amenable to conceptual, theoretical, empirical and performative exploration' (Le Heron 2009: 137). Opening a *project* to wider scrutiny, in terms of the work of certain *actors* [both human and non-human], *spaces* and *ideas do* [i.e. actors and framings and their relationality] in particular moments. Le Heron (2009) argues that thinking about political projects, 'provides a way of opening the space of the political and simultaneously linking the structure and agency implicated in ... [and a way of doing so in] both representational and non-representation terms' (137). It points to the significance of the emergence of political and economic forms. PSPE frames political and economic trajectories as projects – they are assembled [by people, institutions, imaginaries and place], and mobilised and situated [for *somewhere*], emergent [not compete], and open to intervention. This fracturing of the cultural-political into projects allows for the practice of enactive research, in which scholars seek to understand and act with the actors, in the spaces and moments which give projects form and shape. This allows for a politics of knowledge production that collectively disrupts frames and multiplies possible worlds, through collaborative and enactive experimentation. Rather than simply representing worlds, the aim is to constructively perform in worlds through making knowledge with [and within] hybrid collectives.

Thus PSPE seeks to fracture the distinction between knowledge production and the politics of intervention. For example: representational and non-representational knowledge; performance and performativity; being and becoming; embedded and embodied; analytical and situated knowledge; politics and political projects, discourses and framing; connecting and aligning, conceptualising and assembling; governance and governmentality; constructed and constituted; actors and temporary coalitions; conceptual frameworks and knowledge spaces; politics of knowledge and ontological politics; and, alternatives and enacting (Le Heron 2009: 139). Each of these is attentive and intent(ive) of knowing and acting in processes. This again points to the *making* and *proliferation* of projects. In particular, PSPE's initial projects reconceptualised neoliberalisation as *neoliberalising* and globalisation as *globalising* (Larner & Le Heron 2002a, 2002b; Larner 2003; Lewis *et al.* 2007).

With the focus on *ing*, PSPE breaks meta-narratives and attends to the (different) processes and practices of these projects across space, and the rise of new political and economic forms as heterogeneous assemblages (Larner & Le Heron 2005; Le Heron 2007; Larner 2011), whereby it becomes possible to disrupt totalising discourses and reveal them as messy and otherwise across space and institutions, and the specificity of outcomes for place (Larner *et al.* 2007; Lewis *et al.* 2015b). Indeed, a critical aspect of PSPE is situated theorising, whereby for PSPE scholars it is necessary to 'understand that where we are matters to how we understand the world' (Larner 2011: 87; see also Le Heron & Lewis 2011), in order to contest universal assumptions of certain projects (i.e. globalisation and neoliberalisation) as what was happening, for example, in New Zealand did not map directly onto conceptions from elsewhere. Le Heron (2007) argues that PSPE 'offers geographers a mode of geographic inquiry that has qualities that may be constitutive of progressive spaces' (Le Heron 2007), in the sense that by knowing the particular of processes, it may be possible to intervene.

As such, a central tenet for PSPE is that in order to make different worlds possible (and knowable) it requires other categories for knowing (Larner 2011, 2012a,b), and to ‘understand the world from doing the making of the world’ (Le Heron & Lewis 2011: 4). Larner argues that rethinking economic geographies demands situated knowledges: rather than ‘privilege reified accounts based on abstract concepts and macrolevel processes’, we should utilise ‘approaches to the economy that use careful theorising and innovative methodologies to document how analytical and empirical links between ‘there’ and ‘here’ have come to constitute economies in particular forms’ (2011: 91). This approach assumes that the objects and subjects of economic knowledge have specific constitutions, emerge from multiple origins, and travel in disjunctive circuits’, thus it is necessary to move beyond universal economic knowledges and bring to bear other categories that provide a ‘closer examination of processes of constitution, articulation, translations and mutation that comprise these geographies’ (Larner 2011: 91). Hence again, the idea points to the opportunities of enactive research, whereby they seek to insert themselves into the *rooms* and *moments* of political and economic projects (Le Heron & Lewis 2011; see also Lewis *et al.* 2015a). This generates both the occasion of learning processes from the inside and intervening in these to constitute other possible futures. This, of course, assumes that economic knowledges are always situated, multiple and hybrid no matter where they are found; political and economic spaces and subjectivities are multiple and contradictory, and political forms emerge out of reinvention.

With PSPE thinking I hone in on the doing of economy – the projects and practices – to understand the making of emergent economic subjects and a *politics of the possible* (Lewis 2009a). A PSPE approach helps me to think about the relationality between myself, knowledge practices and the wild, in order to intervene meaningfully and co-enact the emergence of resilient taewa economies. I assume being an economic geographer has something immediate and tangible to offer taewa economies, as too do the Māori actors who enrolled me. Economisation is registered as an emergent process, and in the case of taewa, a Māori political project, which has a relationality to the State. Māori seek to reveal opportunities for mobilising Māori land, knowledge, objects and people and making-economy in their own ways and negotiating this into other economic circulations. One in which I intervene. This asks me to take seriously knowing the *work* I can do as an economic geographer and what *work* my work does.

#### **2.1.4. Knowing and claim-making in cultural-political taewa worlds**

These three approaches for understanding cultural political worlds allow me to treat and explain the circulation and articulation of taewa as a network that is assembled and (dis)embedded by complex and diverse actors, institutions, objects, politics, practices and values, which in turn grounds my theoretical analytics to be able to account for, conceptualise and explain the ‘difference’, ‘institutions’, ‘exchanges’ and ‘constituents’ associated to a Māori potato world and provide new understandings of economy, markets and economisation.

## 2.2. Economy-making: Callon *et al.*'s idea of economisation

*The economy is an achievement rather than a starting point or a pre-existing reality that can simply be revealed and acted upon* (Çalışkan & Callon 2009: 370).

Drawing on actor network theory, Callon (with Çalışkan) explore the notion of economisation (Callon 1998a; Callon 2007a; Çalışkan & Callon 2009, 2010). They attend to the networks [agencements] of humans and non-humans and the interaction between them that contributes to the construction of economy (Callon 1998b; Callon *et al.* 2007). Callon argues, economy is generated through collectives out of sociotechnical experimentation in/with human and non-human relations, and that economy (and markets) is composed of economic experiments, co-constitutively constructed and regulated, by diverse and multiple actors (human and non-human). Performativity is central to the thesis, in particular the performativity of economic knowledge, models and experiments (Callon 1998a,b, 2007a, 2007b, 2010; Callon *et al.* 2007; Çalışkan & Callon 2009, 2010). Along with other economic anthropologists and sociologists (see, for example McKenzie *et al.* 2007; Knorr-Cetina & Preda 2005 Pinch & Swedberg 2008; Roscoe 2013), Callon explores how 'the economy' has been fashioned into a privileged institution by economists and given undue autonomy from social worlds. Rather than merely describing economy, it formats and shapes (performs) economy.

Callon's theoretical project is applauded for its ability to understand markets as horizontally and spatially diffused constructions of action (Gibson-Graham 2008; Berndt & Boeckler 2009, 2010), and critiqued for its overemphasis on agency over structure, economists, markets and ahistoricity (Miller 2002; Fine 2003a,b, 2004; Castree 2002; Sunley 2008; Mukhopadhyay 2014). However, in the more recent tradition of economisation, Callon and his followers problematise agency in markets (Çalışkan 2010; Callon 2010; Mitchell 2010; Jackson *et al.* 2010). Callon's position is opposed to neo-classical accounts, and Polanyi's perspective on embeddedness in the wider social world. Rather Callon is interested in how actors gain autonomy. His performativity thesis attends to how (and by what) the boundaries of economy are negotiated. This theoretical move is different to the notion of embeddedness (i.e. Granovetter 1985, Uzzi 1996, 1999; Callon 1998b), whereby economy is understood as an institution embedded in social worlds, Callon uses performativity as a method to demystify some of the uncertainties and identify some of the previously unseen actors and relationships integral for the constitution of economy. He challenges social scientists:

- a) make visible and explicit the differences and asymmetries constantly being constructed;
- b) to militate for the establishment of procedures allowing the recognition of these differences, their expression and the realisation and testing of the programmes they defend (Callon 2005: 18).

As such, performativity goes beyond the idea of embeddedness to delve into the complexity of economy-making, in regard to its agents of making and the uncertainty of its forms. As Callon argues,

Saying that economics, with the multiplicity of frames of analysis and theoretical models it develops, contributes to the constitution of the object that it studies, means implicitly claiming that there is no single way of organizing the economy and moreover organizing it satisfactorily or even effectively. In itself the thesis of diverse modalities of organization of economic life is by no means new or revolutionary – no more than that of the diversity of market configurations. What the performativity thesis does add is that there is no one best way, no single form of organization that imposes itself naturally and compellingly, so to speak, as the only one able to ensure the optimal functioning of (economy and) markets (Callon 2010:163).

Çalışkan and Callon (2009, 2010) have worked Callon's idea of performativity into their notion of economisation. A number of economic geographers have picked up Callon's ideas of economisation (and performativity) (see, for example, Gibson-Graham 2008; Berndt & Boeckler 2009, 2011; Boeckler & Berndt 2013; Ouma *et al.* 2013; Lewis *et al.* 2013; Christophers 2014a). I draw largely from economisation and its components, as worked at earlier by Callon, to understand potato economy-making. This section outlines economisation, its particulars, critiques of economisation, and geographers' perspectives.

### **2.2.1. Economisation (and marketisation): an overview**

Economisation, then, is a theoretical project for investigating 'processes through which activities, behaviours and spheres or fields are established as being economic, whether or not there is a consensus about the content of such qualifications' (Çalışkan & Callon 2009: 370). These processes 'cannot be dissociated from the effects produced by those disciplines, which, directly or indirectly, seek to identify and analyse the economy' (Çalışkan & Callon 2009:370). Economisation has three key agents: *theories of the economy*, both established and refined through social and academic practice; *the products themselves*, whose materiality influences the modes of valuation that are possible and their outcomes; and, the *institutional and technical agents*, which allow human agents to act (Çalışkan & Callon 2009: 370). Çalışkan and Callon present economisation as the assembly and qualification of actions, devices and analytical/practical description as 'economic' by social scientists and market actors. As such, economisation is a shift from 'the economy' *per se* to examining the actants and processes of economy-making [economisation]. In particular, the processes through which action, devices and analytical descriptions are assembled, qualified and defined as economic, and the processes that constitute the behaviours, organisations, institutions, and more general, the objects in a particular society which are tentatively and often controversially qualified by scholars and/or lay people as economic (Çalışkan & Callon 2009: 370). This project builds on Callon's earlier work on understanding the construction of markets, market qualities, market devices and performativity (Callon 1998b, Callon 1999, Callon *et al.* 2003, Callon 2005, Callon *et al.* 2007, Callon 2007a,b).

As Callon has argued, there would be not economy without economics, and furthermore social scientists need to be more reflexive about their own contribution to constituting their research subjects and objects (i.e. 'the economy'). The notion of economisation seeks to conceptualise a set of actions which transform and format institutions, behaviours, objects, affects, and feelings, so that they become *economic* [author's own], that is so they match a certain idea and a certain conception of what economy is, among both experts and ordinary people. As such, the conceived 'reality' of economy relates to, at a certain point in time and for certain actors, depends on multiple conceptions that guide the economisation process. This accentuates the variable and evolving dimension of economic activities.

Marketisation [market-making] is a dominant theme within economisation, and whilst 'the markets' upon which Callon *et al.* focus do not often appear in Māori potato economies, their ideas provide a useful set of tools for investigating exchange broadly, and the markets that do in fact emerge in Māori potato worlds. Çalışkan and Callon suggest that marketisation is a particular and disputable modality of economisation – markets are economy's dominant form (Çalışkan & Callon 2010). For Çalışkan and Callon, markets are socio-technical agencements. They draw on Deleuze and Guattari (1987) to define agencement as 'arrangements [of humans and non-humans] endowed with the capacity to act in different ways, depending on their configuration' (2010: 9).

Marketisation is a concept for conceptualising 'the entirety of efforts aimed at describing, analysing and making intelligible the shape, constitution and dynamics of a market socio-technical arrangement' (2010:2). Marketisation is constituted by processes of economic calculation, valuation and exchange. There are multiple *actors* involved in market-making, including human agents, knowledge, rules, institutional contexts and technologies (or market-devices). These constitute the market socio-technical agencement. Çalışkan and Callon (2010) argue there are five activities central to the framing of markets: 'pacifying goods' (i.e. goods become framed as commodities, which can be bought and sold); 'marketising agencies' (i.e. the range of actors involved in pacifying and valuing goods in markets); 'market encounters' (i.e. through which practices of valuation can take place); 'price setting'; and, 'market design and maintenance' (i.e. their reproduction) (see also Callon 2015). Their notion of marketisation draws on Callon's earlier arguments that markets evolve and become differentiated and diversified, and they are not grounded in a pre-established logic, that is 'economic markets are caught up in a reflexive activity: the actors concerned explicitly question their organisation, and based on their functioning, try to conceive and establish new rules for the game' (Callon *et al.* 2002: 194). Furthermore,

The existence of a market implies the circulation of merchandise, that is, the existence of goods transformed into things that can be passed from hand to hand. This circulation is simultaneously a process of production and qualification that transform products and in doing so qualifies them in such a way that they are attached to users by entering their world and becoming parts of it (Callon 2005:5).

As such marketisation is positioned as a sociotechnical process – markets are sociotechnical agencements, always in the making. Callon understands markets as complex realities that can be configured differently, as ‘each configuration can be designed to respond to particular orientations and requirements’ (Callon 2010: 163). Callon and Çalışkan examine how these agencements are designed, implemented, maintained and reproduced, and the various institutional and technical arrangements that allow humans to act within and constitute markets.

Both economisation and marketisation tend to *action(-isation)* implying that both economy and markets are achievements, rather than a pre-existing reality to be simply revealed and acted upon. As such, economies and markets are made and (un)made, and nothing is inherently economic, but everything can become economic (Çalışkan & Callon 2009, 2010). Economy is constituted as a heterogeneous arrangement of human and non-human agents. Callon *et al.* open up and reveal economies and markets as polysemic, although the performative force of neo-classical ideas, which largely frame what is economic and a market. As Callon and colleagues point out, albeit it without much further elaboration, neoliberal markets/economies are not the only possibility (Callon 2007a; 2015). My research partially contributes to the construction of Māori potato economies. Indeed, given the lack of familiar objects, actors and exchanges, the very framing of Māori potatoes and my journeys with them as a Māori potato economy is performative, which requires a sensitivity to Māori worlds and making sure I mobilise an open, diverse and situated conception of economy and its object actors (as per, what will be presented in Section 2.3). The following section details the particular ideas and components of economisation.

### **2.2.2. Economisation: Its particulars for understanding Māori potato economy making**

Callon and Çalışkan pay particular attention to actors and market devices, agencements and collectives, collective calculation, economic experimentation, and framings, maintenance and overflows. The following sub-sections discuss each of these components.

#### ***Actors, devices, agency: human and non-humans***

In Callon’s economisation, economies and markets are made of heterogeneous actors and devices, these come (and are brought) together to form socio-technical agencements, whereby actors and their relationality constitute particular economic objects, subjects and coordinating activity. Actors can be human bodies, non-humans and devices (i.e. mathematical models, algorithms, technological artefacts). Their agency is distributed and relational, and their cognition is distributed across human and non-human actors (Callon 2007a). Individual actors and agencements (to be outlined in the next sub-section) are complementary materialities. Individual actors become mobilised capable of ensuring its development and maintenance, and the individual opts for as agents in and of agencements, which in turn perform a negotiated and relational representation of the projects of individuals and thereby realising some variant

and/or dimensions of them (Callon 2008). Actors are entangled in sets of relations with other actors within the agencement, hence their agency is relational and distributed across an agencement – no actor has their own agency and nothing acts alone. Callon (2008) argues that established conceptions of individual *actors* should be replaced with the notion of *individual agencies* (actants), that is, these are as diverse as the agencements shaping them and agency is *distributed agency*.

Market devices are the technologies [technical instruments] involved in market-making (Muniesa *et al.* 2007; Çalışkan & Callon 2010). Callon and colleagues use the term to refer to ‘the material and discursive assemblages that intervene in the construction of markets’ (Callon *et al.* 2007:2). They draw off Deleuze and Guattari’s (1987) idea of agencement, whereby the subject [agencement] is not external to the device. To Deleuze a device

... is a tangle, a multi-linear ensemble. It is composed of different sorts of lines. And these lines do not frame systems that would be homogenous as such (e.g. the object, the subject, the language). Instead, they follow directions, they trace processes that are always at disequilibrium, sometime coming close to each other and sometimes getting distant from each other (Deleuze 1989: quoted in Muniesa *et al.* 2007: 2).

Devices are crucial in constructing and maintaining markets (Muniesa *et al.* 2007). These devices are *agentic objects*, which Muniesa and colleagues (2007) claim should be brought into analysis of economy-making and markets. They do things; ‘they articulate actions; they act or they make others act’ (Muniesa *et al.* 2007: 2; see also Weszkalnys 2011). Devices configure economic calculative capacities (e.g. laws, rules of the game, calculation, reporting tools, decision-making procedures), but also *perform* as market making agents in relation with the knowledge and experts needed to adjust and calibrate them. They are central to the production, implementation, maintenance and reproduction of markets (see also, Callon *et al.* 2007; McKenzie *et al.* 2007; Pinch & Swedberg 2008). Devices format products, prices, competition and places of exchange, and provide mechanisms of control, and can be used to learn and generate things. Callon (2007a, 2008; see also, Çalışkan & Callon 2010) refers to them as *prosthesis*, arranged by human actors to proliferate economic form, behaviours and objects.

The notion of agency in the economisation literature leaves the source of action open. There are no general or simple answers to questions about who is acting or why (is it an individual, collective, always a human, and so on). As Callon (2008) claims, only the particular circumstance of actions count. Thereby, agency is attributable to heterogeneous and unexpected humans and non-humans. As such agency has three generalisable components: action is spread among several actants (human and non-human, individual and collective); collective action consists of sequences whose order can vary depending on the events (distributed action can be organised but not reduced to a pre-established plan); and none of the participants in the action can be considered independently of the others (Callon 2008). This applies to devices too, whereby their capacity to become agentic and generate and maintain things, requires their translation into agencements and their relationality (or not) to other

actors. It is always the relationships between actors which generate their particular agency and give form to particular actions and outcomes, which no less has consequences for the entire collective.

### ***Socio-technical agencements and collectives***

Accepting that an action is distributed across a set of heterogeneous actors (human and non-human) and devices [prostheses (e.g. tools, equipment, algorithms)], Callon and colleagues group these things together in the notion of a socio-technical agencement (as well as a hybrid collective). Drawing on the concept of *agencement*, Callon adds the socio-technical prefix to underscore the non-human entities at work (Callon 2008). The reference to *socio-technical agencements* emphasises their materiality and their calculative coordination of economic activities (Callon 2008). It also leads Callon to tackle economic agency directly. Economic actors are co-constituted of human bodies and non-humans, and devices, and it is their relationality to each other within an agencement that renders it agentic (Callon 2007a; 2008). For example, whilst the entities are heterogeneous and agencements are multi-layered, there must be some association (social and material relations) and shared matter of concern to assemble entities (and be assembled) around (Latour 2005; Callon 2007a, 2008). Agency is distributed across all entities and all action is collective (a taewa grower who plants a taewa seed in the hope of producing a crop of taewa, this hope can only materialise through a collective of heterogeneous entities: the seed, soils, water, fertiliser, viruses and diseases, crop management ideas etc.).

Callon's use of the Latourian conception of matters of concern is important. *Concern*, such as care or strategy, need not be prior or governmental, but becomes collective, additive and generative, and thus transcends mere facts of connection. The heterogeneous actors of a socio-technical agencement do not (necessarily) share intrinsic competencies or a fixed ontology: agencements are emergent and full of uncertainties. Çalışkan and Callon (2010) suggest the mechanisms attributing individual or collective sources of action vary between different agencements. An arrangement of actors frames a particular way of being economic, which organises the conception, production and circulation of goods and constructs a space of confrontation and struggles. Actors adjust themselves in relation to each other. As they circulate other objects become actors, thus requiring readjustment within the agencement to hold itself together (i.e. a market). As Çalışkan and Callon (2010; see also Callon 2008) argue, a socio-technical arrangement acts, generates actors and agency, and co-constitutes meanings and actions. Agencements transform situations by producing differences and distinction e.g. an organic food producer agencement vs. a conventional food producer agencement.

An 'agent's identities, interests and objectives, (in short, everything that might stabilise their being and its representation) are emergent with the form and dynamics of relations within agencements. Callon's idea of an actor network in this context does not simply connect entities which are already there, but configures ontologies. The agents, their dimensions, and what they are and do all depend on the morphology of the relations in which they are involved (Callon 1998b: 8). This places a particular accent on the situated nature of both knowledge and

association, and their relationality in matters of concern. An economisation approach is thus by definition sensitive to diversity and situatedness as well as relationality.

In this account, relationality is established among discursive, procedural, material and corporeal elements (Callon 2008). Discursive elements include things such as state policy agendas, research, and investment strategies, while procedural elements refer to standards, regulation and certification. Together these elements define actor roles, coordinate practices, and guide action in agencements. Material elements include human bodies, plants, bugs, tools, potatoes, soil and so on, which act in associative and dissociative relation to each other informed, configured, and standardised by procedural and discursive. Building in concern with and for corporeal elements take this relationality into the body. What emerges in agencements is collective action and formatted sociomaterial practice. Elements in agencements are not so much functionally related as they are adjusted in-to them where formatting, practices and elements are mutually co-constitutive (Law & Urry 2004; Mol 2010; Arora 2013).

Each of the three empirical chapters reveals a different socio-technical agencement at work in the making of taewa economy (Tāhuri Whenua, Aunty's Garden and the psyllid). Each agencement frames and organises a particular conception, production and circulation of taewa, and constructs different spaces of possibility, readjustment, confrontation and power struggle, and outcomes of articulation. Each has similar discursive, procedural and material elements, but differs in the relationality among them and illustrates different notions of being economic in Māori potato economies. As I journey with, and as part of, each agencement, I become able to see the elements and the ways in which they are held together and reassemble taewa economy.

### ***Calculation: economy of qualities and collective calculation***

a product ... is an economic good seen from the point of view of its production, circulation and consumption. The concept (*producere*: to bring forward) shows that it consists of a sequence of actions, a series of operations that transform it, move it and cause it to change hands, to cross a series of metamorphoses that end up putting it into a form judged useful by an economic agent who pays for it. During these transformations its characteristics change ... Defining a good means positioning it in a space of goods, in a system of differences and similarities, of distinct yet connected categories (Callon *et al.* 2002: 197-198).

The qualification of products is a central concern of all economic and market actors, and is the basis for arranging economies and markets (Callon *et al.* 2002; Callon 1998b, c; Çalişkan & Callon 2009, 2010). The qualities (characteristics) of goods are neither pre-given nor determined, but established through processes of qualification. Qualification employs metrics, technologies, laws, and other measures (market devices), to establish the qualities of a good (what it is like) and position it within economy and markets; it asks and answers why this and why it is in demand (Callon 1998c). Qualification makes transactions possible by defining and 'pacifying' objects, establishing commensurability among them, and stabilising connections between goods and people (Çalişkan & Callon 2010). This is seen clearly in contemporary economy in the

production of quality standards and processes of certification and branding where multiple agents generate attachments between consumers and goods that allow them to circulate in economies and through markets (Callon *et al.* 2002). Qualified, pacified, and made commensurable things are thus made economic and available for transaction. This is achieved through calculation, a complex, collective practice involving humans, non-humans and devices. Rather than the work of singular or isolated economic agents, calculation and qualification occur within and through agencements.

In short, for exchange to occur a good must be rendered calculable (individualised, objectified and ordered in a single space) and encounters between goods and calculative agencies must be organised and stabilised (Callon & Muniesa 2005; Callon 2007b; Çalışkan & Callon 2009). Callon suggests that:

to make decisions calculative agents need to: establish a list of possible states of the world (each state of the world being defined by a certain list of actors, goods and by a certain distribution of these goods amongst actors); rank these states of the world (which gives a content and an object to the agent's preferences); identify and describe the actions which allow for the production of each of the possible state ... for an agent to be able to calculate – i.e. rank – her decisions, she must at least be able to draw up a list of actions that she can undertake, and describe the effects of these actions on the world in which she is situated. This presupposes the existence in organised form of all the relevant information on the different states of the world and on the consequences of all conceivable courses of action and the access of all this information to the agent. Thus she will not only be able to get an idea of possible goals and rank them, but also mobilise the resources required to attain them (1998b:4).

Economic worlds and circulations in this theorisation are not predefined nor are the values of a good. Qualities establish a market: 'a system of differences and similarities, of distinct yet connected categories' (Callon *et al.* 2002). Economics rests on qualifying products and positioning goods. For goods to be rendered calculable and circulate they must be disentangled from their existing context and pacified (Callon 1998b). It is the ability to pacify a thing that turns it into a good, whereby agencies can form expectations of it, make plans about it, stabilise their preferences and undertake calculations (Çalışkan & Callon 2010:5). The qualities of a good are measured and coordinated, even as they continue to change as they circulate (see Gregson *et al.* 2013; Lepawsky & Mather 2011). Positioning goods is a continuous process of pacification, qualification and re-qualification, through design, production, development, manufacture and retail. Qualification establishes an assemblage of characteristics that differentiates goods from other goods and stabilises them for market exchange (Callon *et al.* 2002; Callon 2007b; Çalışkan & Callon 2010).

Calculation is achieved by calculative tools/devices (Callon 1998b), but not through any simple functional or instrumental process in which the device is the tool of the human. Both human agent and device conceive of calculation and perform it; both exercise agency in

association with each other and the materiality of the object (Callon 1998b; Callon & Muniesa 2005; Çalışkan & Callon 2009). Each shapes the modes of valuation that are possible, their application, and their outcomes (Çalışkan & Callon 2009: 370). Agencements 'do not merely record a reality independent of themselves; they contribute powerfully to shaping, simply by measuring it, the reality that they measure' (Callon 1998b:23). Scientific measurement and economic tables, models and algorithms alike are performative and distribute among humans and non-humans. Calculative agencies are hybrid collectives and calculation is a collective process (Callon & Muniesa 2005; Callon 2007a; Çalışkan & Callon 2009). All this is particularly apparent in the establishment of markets in which the objects have complex materialities such as carbon emission markets (see, for example Mackenzie 2009; Blok 2011; Kama 2014), and waste markets (see, for example Gregson *et al.* 2013; Lepawsky & Mather 2011).

Qualification plays a part in processes of detachment and attachment that allow objects to become reliable, commensurable and to circulate; or, as Callon (2007a: 331) observes, to move 'from one spatiotemporal frame to another' and remain 'operational'. In Callon's reading, this requires that 'the agencement that 'goes with it' has to be transported as well' (2007:331). Attachment is generated by singularising the economic object; fixing it, at least temporarily, in relation to understandings of its qualities, origins, and relations between it, its producer and its consumer (Callon *et al.* 2002; Callon & Muniesa 2005). Attachment enacts new associations between entities, which requires some initial detachment of elements from the existing routines and sociotechnical networks that support them. This is achieved by recalculation and new ways of seeing and being (re-qualification). Attachment and detachment is on-going in economy and central to market-making and economy-making, and map onto processes of entanglement and disentanglement that create and sever connections in making markets (Callon 1998).

None of this calculation, pacification, and qualification, however, is ever easy (Gregson *et al.* 2010b, 2013). In any empirical setting, we have to ask how calculation is done, what values exist and/or are in the making, and how values differ across space and within circulations. In the case of taewa, this includes asking whether its relations with Māori and its vital materialities can be pacified, detached from Māori and biological worlds, and/or entangled in market worlds. Each circulation I study in this thesis sees the taewa calculated, qualified, pacified, and entangled differently. For Tāhuri Whenua, taewa are calculated and qualified for entanglement into both old and new worlds of Māori economy in relation to science and the state. Aunty's Garden is an agencement with different qualifications and economy-making entanglements, while a focus on the agency of the psyllid highlights a different taewa biologically (one that may be genetically modified and/or commonly in the company of bacteria *Lso* and gripped in a different, faster and more damaging process of degrading). Here, there are different qualifications, different agents and commensurabilities to achieve, and a different agencement. Notions of attachment and detachment and entanglement and disentanglement are confused by cultural relation to taewa that may continue beyond transaction. By being out there, taewa enliven Māori worlds; while by being different taewa create new tensions between old and new

Māori worlds yet resolve others. The idea of pacification is complicated in Māori economy-making and exchange.

### ***Economic experimentation: economy and markets as a set of ongoing experiments***

Callon considers experimentation to be an ongoing dimension of economies and markets that are always in the making in an uncertain world (Muniesa & Callon 2007; Callon 2007a; Çalışkan & Callon 2009). No single individual, organisation or institution can impose a fully durable or 'perfect' economic or market form/logic. Experimentation takes the place of the plan in economic coordination and design, and facilitates economic adjustment and the search for compromises that enlivens economies (Callon 2009). Callon refers to in-vitro (in the lab) and in-vivo (in the wild) experiments. Experiments bring to bear ideas, practices and technologies in relation to extant agencements and imagined entanglements. The efficiency or success of economic experiments such as market design or organisational restructuring depends to a large extent on the socio-technical agencements of which they are made or into which they are translated (Callon 2007a, 2009; Callon & Muniesa 2005; Muniesa & Callon 2007; Callon *et al.* 2007; Mitchell 2007, 2008). Whether in the lab or inadvertently in the wild, they put something to the test (i.e. a new law, new product, a new device etc.), generate insights into the reflexive coordination of economic activities, and change things. Experimentation affords human agents a privileged reflexive agency in economy making, and renders markets reflexive institutions.

Economic experiments are mobilised by what Callon calls *economists* and *economists in the wild*. This differentiation emerged in Callon's later work, which suggests he has broadened his category of economic agents – beyond just the neoclassical economist (Callon 2007a, 2009; Callon *et al.* 2011) Economists refer to those economic agents confined (i.e. within universities, think tanks, government institutions), who seek to test ideas produced in the lab in the wild in the name of enhancing economic efficiencies (through for example models) and rendering other worlds 'economic' (for example, assigning neoclassical ideas individual property rights to areas previously open) (see, for example: Mitchell 2007, 2008; Weszkalnys 2011; Mukhopadhyay 2014). Economists in the wild experiment more or less formally shaped by normative prescriptions, practical knowledge of application in the wild, and socio-technical agencements in which they are embedded in multiple and complicated ways. While experiments in the wild are often more spontaneous, any experiment will involve monitoring and reflexivity in the context of uncertain outcomes, whereby the *effects*, *affects* and *results* can be taken into account and evaluated by the experimenters (and its followers/participants). Taking place in scientific or economic socio-technical agencements (and sometimes in econo-scientific agencements), experiments are necessarily collective (Callon 2007). This raises the possibility of forms of experimentation that bring those working in labs together with those in the wild to 'multiply the possible worlds of a more thorough collective experimentation' (Callon 2007: 352). This points to the political potential of a Callonistic approach, to enact new formations by collective experimentation with experiments and thus rethinking what goes inside and what remains outside an experiment, particularly in the realms of valuation and exchange (see, for example

Gibson-Graham & Roelvink 2010; Berndt & Boeckler 2012; Kama 2014). Any experiment will involve processes of both framing and overflowing (Callon 2007a)

As a concept, experimentation highlights the 'in-the-making' nature of markets and economies and the hybridity of agencements, as well as theorising a pivotal process in this dynamism. Multiple actors will be involved in any experiment, such that their design, implementation, evaluation and translation will be contested, and their value and success will be understood differently. The making of markets via on-going experimentation is also a matter of trials of strength. These ideas are being tested (for example, Weszkalnys 2011; Mitchell 2002, 2007, 2008; Mukhopadhyay 2014; Cockburn 2014), with economic geographers attending to their spatialities and spatial effects (Ouma *et al.* 2013; Berndt 2011b, 2013). These authors reveal the messy, uncertain and contested translation of experiments in local settings, highlighting collisions (articulations and disarticulations) with historical, cultural, and political contexts. Economic experimentation in the wild or in translation from the lab to the wild is never straight forward. Rather it is troubling and disruptive.

### ***Framings, maintenance (stabilisation) and overflows***

The emergence of calculative agencies [an economic or market agencement] is both product and source of framing (Callon 1998a,b, 2007b). Framing is an operation of disentanglement that allows a myriad of associations between agents (the relations among heterogeneous agents) to be sorted and classified. It performs operations of inclusion and exclusion, 'for to frame means to select ... certain worlds, with their goods, agents and attachments, are chosen above others which are consequently threatened by extinction' (Callon 2007b: 140). Framing normalises particular understandings about goods and their calculability, and particular definitions of value, and performs acts of economic and market maintenance and border protection. Framing imposes an order on heterogeneous actors and allows for agencements to be abstracted and its elements dissociated from one another. Framing is always a fragile, partial and artificial achievement which requires substantive investments.

The counterpart of framing is overflowing. Overflows are the unpredicted outcomes when adjustments occur within an agencement, such as when something new enters or something old changes as a result of experimentation, a new framing, or a new economic device. Any adjustment alters the relationality of the actors within the agencement and as such the agencement is re-constituted and/or generative of a new agencement. Overflows are thus both the necessary consequence of framing, as well as the foundation on which it can exist. Without overflows, the process of framing would be ineffectual (Callon 1998c). As Callon claims

an adjustment is always fragile and rare, the general rule is a misfire. We can choose to call this misfire overflowing, when we equation performativity with a framing that, like any other, produces or, rather, ends up producing, its own overflowings (Callon 2010: 164).

Callon argues that politics is revealed in these misfires. Overflowings are generative and illustrative of the boundaries and edges of economies and markets, as certain adjustments seek to exclude and reject certain objects. In terms of politics,

it is because the economy is performed... and these misfires spawn issues, matters of concern that the performance struggle starts, in the form of controversies over the nature of relations between that which is delegated to the economy and that which remains outside it [what is or what is not said or done to be economic] (Callon 2010:165).

Overflows are the connections to the outside world that the frame is unable to abolish or prevent. They have multiple sources and can flow in many directions (Callon 1998c, 2007a). They are both the source and the stuff of economic dynamism, especially that which is non-linear or unanticipated.

### **2.2.3. Economisation: its critiques**

The idea of economisation is not without its critics, with critique mirroring that levelled at ANT more broadly. In its own terms, the conceptual structure of economisation is seen as too programmatic for an uncertain, multiple and unfolding world (Ouma 2010, 2012a, 2012b; Miller 2014; Lepawsky & Mathers 2011). The danger is that it performs the economy as capitalist and misses the complexity and alternativeness of economy-making, including competing economic development logics (Miller 2014). External criticisms direct critique at its ontological flatness; its 'apparently' selective, anti-historical, western specificity; its theorisation from rich description in place of theory making; and its emphasis on agency and situated specificity at the expense of structure and generalisation (see, for example Fine 2003, 2004; Phyne *et al.* 2006; Fourcade & Healy 2007; Whittle & Spicer 2008; du Gay 2010; Roberts 2012; Arora *et al.* 2013). These criticisms can be understood in three groups: the helpfulness of Callon's underlying critique of economics; the ontological flatness of economisation and its consequences in terms of eschewing the power, history, culture and structure; and the micro-details of how Callon develops economisation itself.

In a refinement of Fine's earlier defence of economics as a hybrid and heterodox discipline in the face of Callon's assault on the performativity of economics and by extension its complicity in neoliberalism, Mitchell (2014b) contends that Callon gives too much attention to economists at the expense of other formatting knowledges and modes of government (see also, Majury 2014). While the notion of 'economists in the wild' extends his critical focus away from the reductions and abstractions of neoclassical economics, there is a more telling criticism here. First, as Fine (2003a,b) and others recognise, the Callonist project focuses attention on a restricted range of markets, devices, and goods. Technical and calculative tools may take diverse forms, do not come solely from neoclassical models, and are conditioned by diverse institutional and technological forms (see, for example, Kama 2014; Miele & Lever 2013; Buller & Roe 2014). Second, Weszkalnys contends that economic devices are not simply imposed on pre-arranged

worlds, they collide with and adjust to already existing political-economic and social-cultural conditions, which result in complex articulations. And third, more generally, rival calculative projects forge different framings and different regimes of value bring to bear modes of valuation from any particular place and elsewhere (Mitchell 2008; Mukhopadhyay 2014; Weszkalnys 2011). As a result, Mukhopadhyay claims that Callon's definition of value fails to recognise the complex and systemic nature of value formation and ends up mirroring the account of value formation in neo-classical economics. One consequence is that economisation accounts tend to focus on the discourses of experts (economists) rather than those subject to interventions (thus, for example, De Soto's Peruvian experiments rather than the experiences of the Peruvians experimented upon). A second is that economisation does not attend to the way local discourses and non-economic relations such as trust and other formations of qualification in place and situated in pre-existing cultural worlds (here and there) reverberate through economic experimentation (Thorsøe & Kjeldson 2015).

The ontological flatness of Callon's view therefore bumps un-problematically into deeply uneven cultural worlds (Mukhopadhyay 2014). Not only does it therefore not problematise contest, power and inequality, but, it is argued to miss how economic experiments become folded into existing socio-cultural framings of economic worlds, and pre-formed practices and institutions (see also, Berndt & Boeckler 2012; Ouma *et al.* 2013). Indeed, Mukhopadhyay (2014) demonstrates that efforts to make economic objects commensurable can (and are) resisted and subverted by 'other' people, cultures and history in place. There is no avoiding the conflict, on-going colonial violence, and other struggles embedded and embodied in agencements and the pacifying efforts of economic actors (Mukhopadhyay 2014). Economy cannot pre-exist its multiple agencements (see for example, Mitchell 2002; Mukhopadhyay 2014).

For critics in political economy, the ontological flatness of economisation hides power, especially its formative conjunctures in capitalism and neoliberalism (Fine 2004; Arora *et al.* 2013). The (still-emerging) history of capitalism is backgrounded or eschewed. Critics point to what they consider to be alternative obsessions: markets (economy is bigger than just markets), academic economists (there are many other ways of knowing and doing economy), performativity (economy making has logics that transcend agencements), and the present (the historicity of context is missing). Christophers (2014b) argues that economisation neglects the spatiality and territorialised nature of market formation. Drawing from Harvey's (1981) work, he suggests geographers need to pay greater attention than Callon to the territorial qualities of markets. Spatiality has a particular structuring force that is not picked up in agencements, and one that brings the trajectories of capitalism into play as a structural force. Turning this around to view the argument through an economisation lens, the charge would be that territory needs to be considered as a technology of market-making and one that brings capitalist logics into play as formatting forces. Territory then appears in the experimentation and framing work of agents who work place and space to optimise conditions for capital accumulation (see, also Berndt & Boeckler 2012; Roberts 2012; Muellerleile 2013).

Those who would push Callon and followers further to consider what happens to things after exchange or how they might resist full or even partial pacification suggest that economisation conducts a shallow investigation of materiality. Gregson and colleagues, for example, suggest that the materiality of objects does not stop at the point of market exchange (Gregson 2011; Gregson *et al.* 2010a, 2010b; see also Lepawsky & Mather 2011; Kama 2015; Kryzwozyska 2015). Not all goods can be rendered passive and not all good materialities are stable, furthermore some things are never entirely disentangled from their other contexts (Cockburn 2014). Things can and are still *becoming* before and after exchange, beyond qualification as understood by Callon. While it would be unfair to dismiss as immaterial an account that restores a micro-materiality discounted by both political economy and neoclassical economics, the critique establishes an unlikely critical alignment with political economists who identify a lack of materiality in the abandonment of cherished materialist categories such as social relations or means of production and neoclassicists who prefer to see clearly defined and stable factors of production.

In this thesis, I treat these criticisms as a set of starting points for enriching the potential of economisation as a framework to explore situated practices in taewa economy; a point of departure from which to raise a set of provocations that bring economisation into productive dialogue with other bodies of ideas (see Section 2.3). In this approach, I follow geographers such as Berndt and Boeckler (2011a, 2011b), Ouma (2010, 2012), and Ouma *et al.* (2013) who explore different forms and examples of economic experimentation to illustrate how processes [geographies] of economisation (and marketisation) generate new objects, sites of contestation and collective identities (see also, Miele & Lever 2013; Kama 2014; Miller 2015). Each infuses economisation with other theoretical approaches that open it to the productivities and controversies of place. Berndt and Boeckler's interest in market making, for example, brings interest in the spatialisation of economy with a Callon-inspired interest in the materiality of markets. They ask how markets (and economies) are produced, stabilised, reshaped, and fall apart in an effort to capture the vital materialities and dynamism of economy and enhance the explanatory capability of economic geography. To do so, they problematize the often taken for granted categories of economy and markets and attend to the question of how exactly quasi-entities as socio-technical agencements are realized. They seek to ask what performative work is performed by these categories, and how critical geography might better de-reify and open up the black boxes of class, culture, society, space, and networks to see economy as emergent and uncertain. They attend to *what markets are* and *how they come into existence* and treat markets as institutional networks that mobilise rationalities and technologies to render things, behaviours and processes *economic* (Berndt & Boeckler 2009, 2011; Berndt 2010). They bring Callon *et al.*'s ideas into conversation with political economy to critique power and cultural economy to dissolve the oppositional binary of market and non-market.

Berndt and Boeckler argue that an emphasis on economic entities as socio-technical arrangements demands a sensitivity toward practices. Economy is thus considered a bundle of practices, but counter to Callon always structured spatially and temporally into material

arrangements or assemblages of material objects, persons, artefacts, organisms and things. They suggest that approaching markets as 'practical accomplishments and as assemblages of heterogeneous elements enables the unmasking of processes of marketisation as a deeply ambivalent endeavour ... that is never complete and always prone to failing. Marketisation is about establishing and severing linkages, it is about incorporating and expelling places, people and things' (Berndt & Boeckler 2011a: 566). This allows geographers to engage with the heterogeneity and differentiation of economisation and marketisation practices, processes and outcomes, whilst still searching for spatio-temporal ordering. Furthermore, they hone in on the friction generated by economic experiments in terms of framing what is inside and outside of economy in specific geographical settings to recognise the (dis)articulation of economic forms, practices and processes (see, for example, Ouma 2012; Ouma *et al.* 2013; Berndt & Boeckler 2011b). Economisation and marketisation are thus extended to better consider the complexity of experiments, the entanglements with place and people, the unforeseen consequences, and multiple ontological reconfigurations of space.

### **2.3. Interrogating economisation: a set of provocations**

My research on taewa economy brings the Callonist ideas of economy-making and market-making to agricultural economy in non-Western worlds and to economic worlds where markets are articulated into non-market qualification and practice. Māori potato economies are not fully marketised - different exchanges take place, different calculations and qualifications are made and different devices are at work. Ouma (2015) and Henry and Roche (2013) take economisation beyond financial markets, techno-science, and historical examples into agricultural economy. While Ouma uses it to theorise non-western agricultural markets, my research takes its ideas to even more unfamiliar grounds where markets meet non-market cultural practice and the devices (the hui, Aunty's Garden's gardening protocols, the genetically modified taewa, and so on). I use it to identify market making in an unfamiliar case and to highlight dimensions and practices of economisation such as calculation and experimentation, which are often overlooked in accounts of taewa economy. The objects of this economy, virus-free potatoes, crop management books, and Aunty web-pages, are likewise unfamiliar, but reframe and relocate economy. To understand the economisation of this world and to draw from it new insights for the wider literature requires that I take up the challenges posed of economisation in the previous section – address concerns raised about its presences and fill its absences and silences. This requires further thinking about borders, the situatedness of knowing and making knowledge, diverse economy and justification in relation to material politics and moral economy.

I respond by issuing a set of provocations, each of which draws on a different body of thought as expressed through the work of a particular theorist. Taken individually or collectively they enrich Callon's ideas and make them available for a more penetrating analysis of taewa economy. Each provocation is readable as a separate contribution to refining economisation. The idea of posing them as provocations is to extend the breadth of refinement that might be

made without overloading the critique of economisation or opening up too far complex bodies of thought that have their own genealogies. Rather, and in the spirit of assemblage that underpins economisation as well as that of productive dialogue, they are mobilised as generative interventions that reveal new elements and framings and open up both a wider and tighter explanatory gaze in relation to a particular economy. Each is subjected to the same set of questions: how do they depart from economisation? How do they open-up economisation? And, why is this significant for knowing economy-making in Māori potato worlds? These provocations each relate to one or more of the challenges to economisation, in particular the challenges posed by economic geographers (for example, Berndt & Boeckler 2012; Ouma *et al.* 2013; Gregson *et al.* 2013) – I bring these all into association with each other.

### **2.3.1. Provocation 1. Timothy Mitchell's ideas of *practices* and *frontiers***

Timothy Mitchell is engaged in similar but different intellectual and political projects to Callon *et al.* He argues that 'the economy' is a recent invention and has become a [dematerialised and disembodied] way of thinking about economy, whereby economy is performed as a thing by people, ideas and models in the name of limitless growth. Focusing on the relationship between economics and its object 'the economy', Mitchell attends to the institutions, people, economic imaginaries and objects that make economy, in terms of how economics as a discipline seeks to discipline the world and what it is to be economic. Key questions he asks are: what is economy? Why do we need the economy? What kinds of economy are there? And, what does this term (economy) *do*? Drawing from an ANT perspective, his project is to 'rethink' economy, by unfixing 'the economy' from economics as a discipline, and thereby to illustrate what an economy may *actually* represent or resemble in terms of what it is to be economic (Mitchell 2007, 2008). He rejects an essentialist vision and logic of economy (i.e. the invisible hand), arguing instead that place and history constitute different manifestations of economic practices and their normalisation and stabilisation (Mitchell 2008). Drawing on a deep-seated critique of development worked out in earlier research in Egypt (Mitchell 1991, 1998, 2002), Mitchell recognises but has a deep distrust of the way experts rule by framing understandings and shaping debates in the terms of the categories that they construct. He steps aside from looking at and reading the economy top-down through abstract concepts. Mitchell's ideas have been used widely by economic geographers (see, for example Le Heron & Lewis 2011; Smith & Rochovská 2007; Berndt & Boeckler 2009, 2011; Gibson-Graham & Roelvink 2010; Christophers 2014; Kama 2014).

#### ***Departures from economisation***

Mitchell focuses on the bottom-up approaches, the 'practices' preceding the concept, what people actually 'do' and the *how* of economy. However, he recognises place and the historicity of place as critical to giving economy form. Using the examples of Edison's light bulb and economist De Soto's introduction of private property rights to slum dwellers in Lima he demonstrates the unintended and unexpected directionalities imposed upon history by local sociotechnical arrangements. There is never a straightforward uniform rearrangement of the

local to fit 'economic ideas' (Mitchell 2007, 2008). Mitchell's perspective on how models and projections perform the world in particular ways connects the transformative effects of expertise to the assumptions of economic projects. Projects assume economic rationality, while experts deploy their knowledge, devices and techniques to direct sustained governmental efforts at creating economically rational subjects. This constructs boundaries around the economy (i.e. formal/informal, market/nonmarket, capitalist/non-capitalist, and worthy/unworthy). Activities and practices are either located inside or outside the economy, organising political-economic worlds and creating affect. Mitchell suggests rejecting the idea of boundaries for the idea of *border terrains* or *frontiers*. This 'debounding' of economy is consistent with a conception of economy as contested and emergent and a practice centred accounting for it. Here economy is brought about by multiple and contested ways of knowing and doing, agency, and metrological regimes rather by top-down logics of economic structure.

Following the classical economists, Mitchell reconceptualises economy as practice (the appropriate husbanding of resources), rather than demonstrable object (however open or narrowly defined). For Mitchell, 'the' economy was an invention of national income accounting and Keynesian-led responses to the depression of the 1920s. The economy is a creation of numbers, calculations, command and control economic management, and related national development aspirations. It is the insight of detaching economy from 'the' economy in theorising matters of economic concern that underpins my work on taewa economy and Māori economy, and the distinction between economy and actualised economies that is carried through this work.

Mitchell's work attends to the practice of metrology and the ways in which GDP measures and scenario forecasting are shaping 'economic futures' as a mode of governance. As numbers on paper, forecasts give 'the economy' durability that relies on the magical numbers of GDP and its economist magicians. They perform stabilising work and govern people according to a projected future, as well as offering scripts by which to mobilise interest and investment and thus create futures in the image of the forecast (Mitchell 2014a, 2014b). Capitalisation, with a focus on the performativity of numbers and pieces of papers in the hands of experts extends Callon's project of calculative projects *to realise* market exchange. Thus for Mitchell, there is more to economy than markets.

In his latest work, Mitchell (2014a,b) has turned his attention from 'the economy' as a small number of large numbers to micro economy making practices and the work of a large number of small numbers in governing collective life. In studying the corporation, he argues that Callon and others miss the complexity of economisation by focusing too much on a critique of the work of economists and market exchange, rather than the wider panoply of institutions. He suggests instead that the proliferation of data and statistics (supplied to government), the numbers calculated (tax returns, receipts, payslips etc.), and their projection on paper give 'the economy' a greater durability through representation and information than allowed for by Callon. These routinised and formalised practices direct attention to investment as a crucial and

structure (giving) moment of economy and to the interplay of numbers and paper worlds. Paper worlds fashioned around numbers represent possible economic futures, become performative, assembling people and investors, and link investors, banks, future revenues and policy agendas. The numbers involve processes of calculation and aggregation, and are used by economic actors to reduce complexity, represent and forecast economy, and set agendas and attract attention. They frame economy as the economy and become performative, especially through moments of investment. Calculations future revenue streams, depreciation rates, interest rate projections, infrastructure, requirements perform 'economic futures *now*'. Performing the future now comes to perform the present and thus the future.

### ***Economisation with Mitchell***

Mitchell, then, also explores calculation, relational agency and the performative potential of numbers and devices, but focuses attention on different moments of the circulation of capital and how politics and power are enacted in and through markets (Mitchell 2010). He gives insight to the cultural politics of practices, the friction between economists and people's actual economic imaginaries and practices, and the unbounded space of economy, whereby *crossings* between economies occur [i.e. articulation] (see for example, Ouma 2015). This challenges the categories by which economy is understood and claimed to work. Economic geographers have picked up this particular ontological project of opening up economy to represent the (no less contested) ground by which actors, practices and politics inform and create particular economic possibilities (Gibson-Graham 2008; Le Heron & Lewis 2010). Mitchell's focus on the performativity of numbers in investment trajectories builds a bridge between a Callonist focus on practices, markets and agencements and the situatedness of institutions, projects and places. He guides me to explore tensions between institutional economic imaginaries, political projects meet and market making. His work encourages me to interrogate the work economic projections such as Māori GDP values and the wider work of the Māori Economic Development Taskforce in market agencements involving taewa and the articulation of taewa economies with wider worlds.

As a provocation Mitchell's ideas open up economisation to being more-than-markets, more-than-capitalist, more-than-economists, and more-than-macro. It sets economies free to be understood in relation to other economies, whilst being attentive to the institutions (in addition to economists) and their practices which produce and (seek to) stabilise economy and normalise particular economic practices. This frees me to think about Māori and capitalist economies as unbounded objects or as being more than economic and performed in articulation beyond market exchange. Connected as these ideas are to Mitchell's own previous work on diverse economies in Egypt, it confirms that the voices as well as practices of those enrolled economic experiments are important (see Weszkalnys 2011), especially as agents of articulation.

### 2.3.2. Provocation 2. Haraway's ideas of *situated knowledge and companions*

Donna Haraway argues that all knowledge is situated knowledge (Haraway 1988, 1991). That is, knowledge is marked by its origins, and there is no universally applicable knowledge. From this perspective, knowledge is (only ever) limited, partial, specific and relational, it is a viewpoint from somewhere, constituted by our relationality to *where* we are, and *what* we use to see, which produces *how* and *what* we know. Haraway argues, no knowledge can be, or should be claimed to be, universally applicable as this ignores the specificities of place, people and objects, and excludes other knowledges [ways of knowing]. As such, Haraway (re)contextualises objects in relation to their situatedness. This accentuates recognising and knowing the relationality and subjectivity of objects and small 'p' politics, and the performative consequences of such for how objects act and enact in particular ontological ways. Situated knowledge perspectives in research emphasise the multiplicity and hybridity of knowledge, and its [human and non-human] co-constituents. A politics of knowledge production in such a context involves searching for connections and forming alliances between different situated knowledges; that is learning to translate, to converse from one language and one world to another, and to have conversations which transgress boundaries (e.g. disciplinary, national, ethnic etc.) (Harvey & Haraway 1995).

Haraway conceives of the non-human as companions, and argues that humans have a *response ability* to become with them and the living world (Haraway 2003, 2008). These living things, she argues, 'are not surrogate for theory ... they are here to live [and make theory] with' (Haraway 2003:5; see also Haraway 2008, 2010). Haraway encourages thinkers of human-animal relations to dwell in the aporetic [difficult, uncertain, impassable] moments characteristic of the *contact zone*. She suggests these human-animal encounters are *provocations to curiosity* that lead us toward a sense of response-ability (2008). This notion of responsibility describes a capacity to *respond with* the world and the conditions of its (and our) making sensitively. Such a capacity, for Haraway, cannot emerge out of calculable formulae that separate living things into the categories of those who suffer and those that do not: 'the problem is not figuring out to whom the command 'thou shalt not kill' applies so that other killing can go on as usual and reach unprecedented historical proportions'. Rather, it is to learn how to maintain a capacity to respond in the context of an asymmetrical world in which living necessitates 'someone, not just something, else dying differentially' (2008:80).

Haraway's notion of situated knowledge has been applauded by geographers as it recognises the embodied, relational and spatialized nature of knowledge production (Fisher *et al.* 2015). It insists that the *who* and *where*, and *all* things there and connected, matters; and focuses on the relationality between humans and non-humans for (re)thinking human and non-human identity and subjectivity, and extending beyond dualisms. Feminist geographers in particular have used Haraway's idea of situated knowledge, in regard to representation, reflexivity, positionality and the consequence of this for producing knowledge differently (see, for example Rose 1997; Kobayashi 1994; Larner 1995, 2011), for thinking beyond nature/culture

binaries, and for taking seriously the multiplicities and politics of a lively world (Harvey & Haraway 1995; Lulka 2009). Numerous geographers have utilised Haraway's idea of situated knowledge across a number of contexts: knowledge production (Rose 1997; Le Heron & Lewis 2007; Larner 2011), post-colonial (Connell 2007; Ginn 2008; Larner 2011), power (Larner 1995; Rose 1997; Kobayashi 1994), neoliberalisation (Le Heron & Lewis 2007; Larner 2011, 2012a; Le Heron 2013). Similarly, geographers have utilised her notion of companion species to reveal the relational and contested nature(s) of human and non-human encounters and coexistence: animals (Buller 2008; Ginn 2008; Lorimer 2010; Collard 2012), biosecurity (Ginn 2008; Buller 2008; Hinchliffe & Bingham 2008; Barker 2010), insects (Clark 2013; Beisel *et al.* 2013; Beisel 2015; Ginn 2014; Ginn *et al.* 2014), plants and seeds (Ginn 2008; Head *et al.* 2012; Phillips 2013; Head *et al.* 2015), and in particular, 'differentiating' the non-human - too much focus on animals (Head *et al.* 2015).

### ***Departures from economisation***

The notion of situated knowledge disrupts universal knowledge claims and as such problematises the categories of which economy is conceived. Knowledge and its generative categories are marked by their origins. Haraway's ideas call on me to recognise the position of myself, as well as the positions of research participants. Each comes to and conceives economy differently from places that differ from the genealogy of Callon's notion of economisation. In her more recent work (Haraway 2008), she proposes the idea of *trackless territory* – whereby there are no systems of calculation or predesigned scaffolds of value to guide us in how to live and work with others. The concept is an opening in thought, a frame through which to arrive at an analysis through response ability rather than pre-existing formula. It calls for us to foster our capabilities to respond, to be affected, to develop a sensitivity toward the world and the conditions that constitute it. Whilst this idea is posited toward becoming with animals, it reinforces the necessity to think from the field rather than to it. Economisation and its categories should not be imposed on the field, but seen to emerge from it in dialogue. This suggests knowledge making that responds to Māori potato worlds and one informed by an ethics and politics of learning to be and think in those worlds.

Haraway (2008) argues for an ethic of multispecies co-flourishing [and negotiating] in which the outcomes are never certain, ethical judgments stick close to the action of worlding rather than abstract principles, and in which emotion and reason both play their parts. As Ginn *et al.* 2014 claim, 'flourishing is not some 'soft' alternative to [Foucault's notion of] biopolitics. Flourishing always involves a constitutive violence; flourishing does not imply an 'anything goes' free-for-all, but requires that some collectives prosper at the expense of other' (2014: 115). Flourishing involves many species knotted together, which work with and against other multispecies assemblies. Indeed, some assemblies may become 'the enemy' (Ginn *et al.* 2014; see for example, Buller 2008; Collard 2012; Head *et al.* 2015; Doody *et al.* 2015). In taewa economies (Chapter 7), potato-psyllids do destruction, leading some people to make them 'killable' (Haraway 2008:80), whereas others seek to learn to live with potato psyllids, albeit by setting new terms for the companionship. Psyllids, potatoes and growers have become *knotted*

together (Haraway 2008: 42) in co-creating Māori potato economies, stimulating and requiring new situated knowledge for economy and living together. The psyllid cannot just be a *surrogate* for theory (Haraway 2003; see also, Buller 2014). Becoming (and continuing to be) economic in these terms is a process of becoming (and learning to become) with living others (Haraway 2008; see also Ginn *et al.* 2014).

### ***Economisation with Haraway***

Māori worlds and the non-human in agrifood worlds demand the co-creation of situated knowledge and thus a critical engagement with economisation. Agrifood geographers Buller and Roe (2014) have brought Haraway and economisation into conversation in order to understand how animal well-being is being commercialised or transformed into an economic good. In my project, I bring Haraway into a provocative dialogue with economisation as a way both knowing and doing situated knowledge making of economy-making with others, Māori growers and their whānau (family-group), Māori economists, Māori and other scientists, and (living) non-human actors (i.e. plants, insects and bacteria). A situated knowledge perspective locates and reveals the situatedness of economic imaginaries, objects, actors, and projects that are co-constitutive of Māori potato economies. It helps me to reveal and take seriously multiple situated knowledges and underlying matters of concern, politicise these from the wild rather than prescribing or explaining from elsewhere, and grapple with the contested becomings of human-non-human relationality (i.e. psyllid, taewa and Māori) and the situated contingencies they create for taewa economy-making. This sensitivity problematises 'economisation' and offers a way of confronting the 'local' and the political in the making of Māori potato economies, and thus address the silencing of power and the flattening of uneven cultural worlds that concerns Mukhopadhyay (2014). My response ability is to approach taewa worlds by letting the taewa world talk back to economy-making in its own terms through diverse situated knowledges.

With Haraway's ideas I bring ideas to economisation from beyond economics and science technology studies. Furthermore, psyllids become [disruptive] companions, rather than appearing as negative externalities [or disentanglements]. For many Māori growers spraying them out of their worlds as such is no possible - psyllids are vital elements of their socio-technical agencements. Haraway injects a bio into bio-socio-technical agencements, introducing a biological relationality into taewa economy-making. Can the psyllid be qualified as a companion? It presents an uncomfortable entanglement, which must be lived and thought with, but it is an uncomfortable companion. It has made a mess out of established categories and taewa economic knowledge and relations, whether they be market or culture centred. Along with the potatoes on and with which they live, psyllids have a biological vitality that is irreducible to input into or effect of agency. While uncomfortable companion, the psyllid must be taken seriously, cannot be rendered inert, and has its own affective capacity to respond. It escapes human forms of attempted domination by established 'pest' management regimes - it runs-a-muck in wilds in which taewa must live. In this and other ways, Haraway forces a recognition that the old and the new for Māori objects is always alive and refuse to become subject to economisation's categories of overflowing(s) and new(s). To live with psyllids and

continue making-economy taewa growers and taewa scientists must produce new (but sensitive to the old) knowledges.

### **2.3.3. Provocation 3: Gibson-Graham's idea of *diverse economy***

Gibson-Graham and the Community Economies Collective (CEC) deploy what they term a diverse economy framework to focus attention on what might be considered the agencements of on-going economic activity and purposeful economic experiments beyond capitalist economy. Their work has an explicit praxis – to take back the material practices, being and becoming, collectivity, breadth and ethics of economy from economists and the universalism of all manner of models of economisation. Their work (see, for example: Gibson-Graham 1996; Cameron & Gibson-Graham 2003; Cameron & Gibson 2005a; Gibson-Graham 2006, 2008, 2014 a,b; Roelvink 2009, 2010; Gibson-Graham & Roelvink 2010; Gibson-Graham et al 2013) directs me to attend to the values, practices and exchanges of taewa circulation that could otherwise largely be considered as *externalities* or *overflows*. As learned in my MSc research, much of what constitutes production and exchange, and the associated values, in taewa economies involves diverse [more-than-economic] economic practices (FitzHerbert 2009). As much and ethical as a theoretical project, the twenty year project (and still emerging) seeks to theorise and enact more-than-capitalist economies, by *repopulating the economic landscape as a proliferative space of difference* (Gibson-Graham 2008: 615). In its more recent expressions, the project is situated as a *performative ontological politics and ethics* for creating (and supporting already existing) alternative economies (i.e. non-capitalist) and generating new economic agencies, identities and more-than-human collectives (Gibson-Graham 2006, 2008, 2014a,b; Gibson-Graham & Roelvink 2010; Gibson-Graham *et al.* 2013).

Those in the CEC draw on ideas from economic anthropology and economic sociology (in particular, Latour's ideas of relational agency, non-human agency and learning to be affected), as well as institutional economics, post-colonial development studies, and work on informal economies. Inspired by alternative economic experiments in the wild (community gardens, cooperative/collective ventures and various sharing economies), they mobilise thick description and weak theory to rethink (and re-do) economy so as to reveal the *possibilities* of being and doing otherwise. A number of CEC members have mobilised Callon's ideas within their diverse economy work (see, for example, Gibson-Graham 2008; Roelvink 2009; Miller 2015; Roelvink *et al.* 2015), particularly Callon's notion of economic performativity, economisation more-than-capitalist and more-than-human hybrid economic collectives. These, they suggest, a-liven researchers to *all the relationships that comprise our web of economic life* (Gibson-Graham et al. 2013: 192).

The diverse economies project has rejuvenated various fields of economic geography and is widely debated (see, for example Amin *et al.* 2003; Samers 2005; Wright 2010; Fickey 2011; Fickey & Hanrahan 2014). Whilst Gibson-Graham (2008) acknowledge the marginality of diverse economies and economic activities is difficult to overcome, a number of economic geographers have extended the potential of the diverse economies project by paying closer

attention to the state (Jonas 2010, 2013; Round *et al.* 2010; FitzHerbert & Lewis 2010; Fickey 2011; Fickey & Hanrahan 2014; Turner & Schoenberger 2012); circuits of value (Lee *et al.* 2004; Lee 2006; Jonas 2010); power relations (Aguilar 2005; Hughes 2005; Kelly 2005; Smith and Stenning 2006; North 2007; Wright 2010); power asymmetries (Lawson 2005; North 2007; Williams & Round 2008; Round *et al.* 2010; Turner & Schoenberger 2012); postcolonial worlds (Underhill-Sem & Lewis 2008; Bargh & Otter 2009; FitzHerbert & Lewis 2010; Wright 2010; Bargh 2011; Bryson & Taylor 2010; Jonas 2010); and relationality (and articulation) with other economies (Smith & Stenning 2006; Smith & Rochovská 2007; Williams & Round 2008; Round *et al.* 2010; Wright 2010; Jonas 2013; North 2014). Here, I draw on diverse-economies to rethink, explore and register the unexplored potential of diverse economies in relation to economisation and in articulation with other economies. In the case of taewa economy, the approach directs attention to articulations among diverse Māori economies with state capitalist economies, science economies and industrial capitalist economies and to how they enact new agentic configurations and institutions for economy-making. Bringing diverse economy sensitivities to Callon highlights the possibilities of thinking and doing (making) economy otherwise. Doing so highlights how actors *do* and *objects* can and do move across economies, drawing investment, other actors, knowledges and exchange nodes to marginal economies.

### ***Departures from economisation***

A diverse economy framework reveals and gathers (see Barad 2003) the diverse economic practices, values, relationships and exchanges in Māori potato economies and economy-making. It highlights the diverse 'non-capitalist' economic practices and values embedded and embodied in economy and market making. By identifying the practices and relations that demonstrate economy to be always and already largely beyond the market (Table 2.1), a post-capitalist diverse economy reading of actualised economies decentres the market as the principal encounter, moment and institution of economy. Other sets of economic relations are not just possible but already in place, broadening the horizon of what comprises economy (*transactions, labour and enterprise*). Capitalism is revealed as just one set of economic relations and practices set and scattered across a broader conception of economy. This is a highly political fracturing of the asymmetric binaries between economy and non-economy, market and non-market (see, for example Leyshon *et al.* 2003; Smith & Stenning 2006; Gibson-Graham 2008; Amin & Roberts 2008; Williams 2009b).

The diverse economies approach, therefore, opens an alternative political economy and demands a political project and knowledge making agenda to *Take Back the Economy* (Gibson-Graham *et al.* 2013). For Gibson-Graham and colleagues this implies a corresponding ethical project to foster 'shared principles for other worlds' (Gibson-Graham & Roelvink 2010), and the pursuit of an ethico-political and theoretical agenda for diverse economy exploration in geography. At its core lie a politics and ethics of possibility built on a vision of distributive and environmental justice, backed by a commitment to collaborative and performative research to make visible and support unseen and already existing practices, and an enactive engagement in fostering self-realising community subjects. This particular politics (and ethics) reframes the

politics of economy from abstract categories to hybrid collectives (of humans and non-humans) and from a politics of development needs to a focus on community assets (i.e. social, physical and cultural, resources).

At stake, then, are projects of community development through communing and the mobilisation of resources, practices, and politics of place-based diverse-economies aligned with a caring for the commons and its environments. These are not seen to be mobilised in opposition to a hegemonic capitalism; but to a highly fractured set of capitalist practices and knowing spread across an economic landscape dominated by disparate and incompletely organised processes. This is the space in which the CEC promote the possibility of revealing and cultivating diverse economic possibilities.

**Table 2.1 A diverse economy (source Gibson-Graham 2006: 71).**

TRANSACTIONS	LABOUR	ENTERPRISE
<p><b>MARKET</b></p> <p>Taewa economy examples: <i>Aunty's Garden, Supermarkets, Farmers markets</i></p>	<p><b>WAGE</b></p> <p>Taewa economy examples: Scientists, AG Promoters and Marketers, Consultants,</p>	<p><b>CAPITALIST</b></p> <p>Taewa economy examples: Seed producer companies, Asset holding companies</p>
<p><b>ALTERNATIVE MARKET</b></p> <p>Gibson-Graham's examples: <i>Sale of public goods, Ethical 'fair-trade' markets, Local trading systems, Alternative currencies, Underground market, Co-op exchange, Barter, Informal market</i></p>	<p><b>ALTERNATIVE PAID</b></p> <p>Gibson-Graham's examples: <i>Self-employed, Cooperative, Indentured, Reciprocal labour, In-kind, Work for welfare</i></p>	<p><b>ALTERNATIVE CAPITALIST</b></p> <p>Gibson-Graham's examples: <i>State enterprise, Green capitalist, Socially responsible firm, Nonprofit</i></p>
<p><b>NONMARKET</b></p> <p>Gibson-Graham's examples: <i>Household flows, Gift giving, Indigenous exchange, State allocations, State appropriations, Gleaning, Hunting, fishing, gathering, Theft, poaching</i></p>	<p><b>UNPAID</b></p> <p>Gibson-Graham's examples: <i>Housework, Family care, Neighbourhood, Volunteer, Self-provisioning labour, Slave labour</i></p>	<p><b>NONCAPITALIST</b></p> <p>Gibson-Graham's examples: <i>Communal, Independent, Feudal, Slave</i></p>

### ***Economisation with Gibson-Graham***

In this thesis, I aim to imagine economisation differently, by opening it up to the wide diversity of practices that contribute to socio-cultural, material, and environmental wellbeing. An attentiveness to alternative or diverse economies reveals the more-than-capitalist actors, exchanges and values co-constitutive of Māori potato circulation and economy (and market)

making. A diverse economy (re)thinking of economisation unsettle categories and supposed pathways, to reveal other (diverse) economic forms, circulations and calculative agencies, calculative agencies that qualify taewa in different ways for non-commercial exchange and different circulations. A fundamentally situated way of, and rationale for, knowing, such a rethinking, again, like an approach drawn from Haraway, again *allows for* the local and for sense to be made of cultural values and practices of economic wellbeing, investment, economic relations, of surplus distribution, and commoning.

The two approaches are complementary, in the sense they both share the understanding that economies and markets are made and can be made otherwise. As with Callon's notion of circulation, diverse economy-making (and economy) is friable and permeable, and traversed by actors who move between economic worlds and have relations to capitalist and state economies as well as diverse economies. These actors do not stop being in one economy as they move and situate the *what* of their encounters into objects for diverse-economy making in and for Māori cultural political economies (i.e. capitalist potatoes, state investment). This opens both Callon's and CEC's projects up to a concern with how marginal actors can frame and set the boundaries of economy and translate things from elsewhere for Māori potato economies. There lies in these articulations a fundamental acceptance of relationality and the productive potential of articulations among different economies for supporting and enacting more resilient diverse Māori potato economies. In particular, framing becomes an act of inclusion rather than exclusion, whereby for enacting taewa circulation (economy), articulation is seen as a necessary node which injects resources into MPE.

#### **2.3.4. Provocation 4: Miller's idea of *materiality* and *values* – politicising things**

Daniel Miller explores the co-constitution of production and consumption, the entanglement of economic and cultural values, and the materiality of the world. Miller considers economic life to be anchored in materiality (Miller 1987, 2005a, 2010). Things are material-cultural objects that link production and consumption. Miller investigates the ways in which the identities of objects are produced and reproduced by their relationships with whomever and whatever they encounter as they move. Materiality makes people (Miller 2005b) – stuff socialises just as it is socialised. That is, Miller privileges neither materiality nor culture (Miller 2005a, 2005b). Rather, he points instead to the agency and politics of things, both of which emerge out of struggles among 'things' and humans in economies (and markets). He warns against privileging either the material or the socio-cultural in the co-creation of value.

#### ***Departures from economisation***

While welcoming Callon's (1998b, 1998c) critique of the performativity, abstraction and reductionism of neoclassical economists and his focus on the materiality of markets, Miller (2002) criticised his *overemphasis* on the formalities of calculation and market exchange. He claimed instead that capitalist economic transactions are so entangled in social relationships,

and actual economic agents bring cultural frames to economic rationality in markets. Stuff, he argues, is valued in registers other-than 'economic' (Miller 2002, 2003) Real-world exchange practices escape attempts by economic actors to subject them to economic rationality. Miller argued, that reading practice through the abstractions of the market directs attention away from the agency of material-cultural objects. Calculation comes from cultural and moral positions not solely economic. Despite Callon's emphasis on multiplicity in agencements, Miller suggests that a focus on market-making emphasises disentanglement and backgrounds the series of complex calculative and meaning-making entanglements involved in the exchange and circulation of goods. While Callon and others have addressed this critique in their subsequent work by recognising that material objects are recursively entangled in cultural framings (see for example, Callon 2005; Callon & Law 2005; Callon & Muniesa 2005), the focus on markets misses many of the sites and moments of entanglement. Miller (2008: 1124) points to the importance of respecting people's own use of value and avoiding understandings of value production that 'end up taking us away from the integration of value and values'.

Miller (2008), then, focuses on value creation rather than agency and exchange in market makings (see, Curry & Koczberski 2012). This approach highlights the agency of relationships between person and stuff (i.e. product, device) rather than calculation. Miller points to the cultural values in qualification, the cultural attribution of value, and the way that cultural values brought to the materialities of exchange, but not as a background – subjects and objects have co-constitutive relationships but these emerge beyond particular moments of market and their agencement the subject and object. Miller advocates for an ethnographic approach to investigating materiality and its socialisation, and thus revealing the actual usage of stuff and the more complex relationships that demonstrate the cultural-material constitution of objects and subjects. They show how practices and usage are not pre-determined, rational or driven according to a singular logic, or particular cases of market-making.

### ***Economisation with Miller***

Miller's attention to 'things' highlights the cultural-materiality of taewa and the constitutive and political work they perform in co-constituting the circuits of exchange, economy-making, and articulation of economies in which they circulate. These particular ideas have been picked up in geography (Castree 2004; Cook 2004) and deployed to understand how the role of 'things' changes as they come into contact with other objects and places. The approach decentres markets as the only point of economy making. It brings cultural framing into the play of valuation and market making through the object, and in the case of taewa economy, the taewa itself. The move points to both culture and materiality. The culture of material things resists pacification, imposing agency in value construction (see, for example Gregson 2010b, 2013). In the case of taewa, the approach dislodges the Anglocentricism in economisation. Circulation is produced, and produces economy by engaging multiple values and multiple materialities.

### **2.3.5. Provocation 5. Boltanski and Thévenot's idea of *worlds of justification* [multiple categories] and *negotiations***

Luc Boltanski and Laurent Thévenot work in the school of French sociology and conventions theory. They attend to the relationship(s) between 'person-states and thing-states' as an approach to understand how a state of matter is constituted (Boltanski & Thévenot 1991:2006; see also, Boltanski & Chiapello 2005; Thévenot 2001, 2006, 2009). This, *between*, they argue, is where people compromise, coordinate and negotiate, a matrix of seven different 'worlds of justification' in order to constitute and govern a state of matter. These seven worlds of justification: 'the inspired'; 'the domestic'; 'the world of fame'; 'the civic'; 'the market'; 'the industrial'; and, 'the environmental' (added in 1993). These worlds represent modes of coordination in which human actors negotiate and enact decisions. It is in this way, they argue, that action is evaluated, negotiated and meditated according to multiple moral, cultural and efficiency considerations. It frees thinking from singular categorisations. Their work has been picked up upon by Callon, Latour and a number of agrifood scholars (Morgan *et al.* 2006; Busch 2007, 2011; Rosin & Campbell 2009). These scholars work with ideas of conventions of knowledge, place and production of food (Fonte 2008; Trabalzi 2007; Jackson *et al.* 2009; Ouma 2010) and conventions of agricultural environmental practice and auditing (Rosin 2008; Rosin & Campbell 2009; Campbell & Rosin 2011). Geographers have also applied Boltanski and Thévenot's ideas to investigate moral economies (Sayer 2007, 2008; Jackson *et al.* 2009). Each of these authors draws on Boltanski and Thévenot to illustrate moral framings in doing economic things, i.e. the articulation of ideas and practices and their translation in worlds.

#### ***Departures from economisation***

Boltanski and Thévenot attend to economic and social worlds, which they argue are constituted by a plurality of modes of coordination. This attention to the negotiation of becoming, which may be a site of conflict between ideas, values and practices, is a departure from economisation. It places greater attention to the constitution of *situations*. Decisions and actions are enacted through negotiated worlds, whereby human actors manage these becomings according to different codes and norms. These are the worlds of classification, which generate orders of worth, justified by (often) conflicting frames of reference. Action is evaluated according to these worlds of classification. Qualification, in Callon's terms, is more ordered, and there are multiple orders of worth and/or conventions of valuation. Human actors make judgements about the *quality* of objects and practices in relation to external frames, in which they coordinate economic and social processes. In their approach non-humans are less likely to be included.

To classify object/action people coordinate between different orders of worth. Each order of worth can be used on the same object/action, and all object/actions are generated through multiple orders of worth. While one order of worth may dominate, selling a potato, for example, involves worlds other than the market. Each world has an independent foundation, which may contradict other worlds. Economy is subject to multiple orders of worth and to

competing moral codes. Economic assembling and (re)assembling are riven with tensions. Whilst the economic (or market world) is a regime of worth it does not completely subordinate other regimes. Conventions and related orders of worth offer a grounding framework for mobilising notions of moral economy (see Sayer 2000, 2003, 2007, 2008; Jackson *et al.* 2009), one in which the moral is both given substance and made subject to contest and context as well as universal ethics of justice. As Sayer suggests all economy is moral, and conventions theory gives us a framework for investigating what that might mean and for making evaluations.

### ***Economisation with Thévenot and Boltanski***

Conventions theory leads us to investigate and understand the multiple worlds of justification, and the compromising, coordinating and negotiating that allow taewa to circulate and the moral contests and ethico-politics that emerge. It again locates calculative practices and socio-technical regimes in more structured cultural and ideological realms, and thus in the local. This is particularly useful for understanding the psyllid-taewa journey, whereby the psyllid forces growers and organisations to rethink their projects as they negotiate conflicting frames of reference such as the use of agri-chemical pesticides. Unlike diverse economy approaches, the accent is on the negotiation of multiple worlds rather than expanding an alternative world. The approach foregrounds what is prior to taewa journeys, the conditioning of possibilities.

Taewa growers comprise, coordinate and negotiate value in relation to multiple orders of worth before setting the taewa off into various circulations. So too does Tāhuri Whenua when entering taewa into scientific experiments. Similarly, growers subject their actions to multiple and conflicting ethical and moral concerns when they translate (or not) new objects into their worlds. Taewa economy is moral economy, which is not necessarily recognised through economisation thinking. Articulations among economies are immersed in negotiations between worlds of justification. There are prefigured moral codes and logics of negotiation (i.e. taewa as a taonga, keeping taewa alive, taewa as an economic object) that come into tension as growers seek to mobilise taewa into commercial circulations. Taewa are qualified according to multiple regimes of worth not just the market. Boltanski and Thévenot provide a framework for the work of commensuration that transcends the calculation and recognises the complex and diverse nature of regimes of value and value formation.

## **2.4. Economisation rethought for Māori potato economy-making: Assembling theoretical trajectories through a provocative dialogue**

Each of the theoretical provocations might be read as a sympathetic critique that opens up economisation in different ways to enact a more-than-Callonistic understanding of economic-making in the cultural political worlds of Māori potato economies. Each offers additional concepts to deal with different relational projects, actors and practices in Māori economy making and to account for their co-constitution with Māori political and cultural worlds and

articulation with other (capitalist and state) economies in the making. There is, however, a gathering focus to this exploration: socio-technical experimentation via collective calculation in economy that is lively and material, more-than-human, emergent, relational, practice-centred, unstable, unbounded, disruptive, and neither capitalist nor alternative. Each of the provocations raised begins somewhere within this rejection of prior, stable, universally structured notions of 'the' economy. The provocations do not explicitly address each other, and their differences do not need to be finally reconciled. Assembling them, as Lewis and Rosin (2013) suggest it will, has stimulated generative conversations, the value of which lies in the incompleteness of the assemblage; that is in the rich and generative dialogue embedded in the open and lively tensions and complementarities among them.

The dialogue among these provocations or interventions invokes lines of thought that extend economisation beyond the calculative socio technical regimes of market-making and its attendant aspirations into new realms of complexity of economy-making in a particular context that demands economy-making be opened-up, situated and known enactively. These other directions of thought reveal and gather prefigured locals, moral economies, other worlds of qualification, alternative economy, and the articulated worlds of Māori potato economies. Taken together, these lines of thought open up the multiple and entangled geographies of taewa economy and give me an open conception of economy-making to take with me into my travels in taewa worlds so as to make sense of different encounters and journeys. The empirical chapters of the thesis each recount a taewa journey starting at different positions: Tāhuri Whenua, institutions and economy-making; Aunty's Garden, market-making experiments; and potato psyllids, biological power and reassembling economy.

Enriching understanding/theorising of economy-making in this way (as more than economisation), both by provocation and more systematic engagement of PSPE, CPE and ANT, establishes fertile ground upon which to cultivate different understandings of economy and markets (Table 2.2). It will allow taewa economy to speak to geographical debates on key concepts: economisation (Berndt & Boeckler); economic experimentation (Berndt & Boeckler; Ouma *et al.* 2013; Ouma 2015; Kama 2014); market-making (Berndt & Boeckler; Christophers; Hall; Ouma *et al.* 2013); diverse economies (Community Economies Collective); indigenous economies; and agri-food economies (Carolan 2013a,b; Lewis *et al.* 2013). Indeed, the different theorisations of cultural-political economy and concepts addressed in my provocations are, in part, already brought together by geographers (see, for example, Berndt & Boeckler 2009, 2011; Gibson-Graham 2008; Lewis *et al.* 2013; 2015b). Drawing inspiration from Lee *et al.*'s call for economic geographers to rethink economy by developing *a post or inter-disciplinary imagination to understanding economy* (2008: 1112-3), I have assembled them here more formally to interrogate economy from my encounters and journeys in Māori potato worlds. My proposition is that the theoretical assemblage helps to identify and clarify theoretical differences for knowing taewa worlds. It provides a theoretical apparatus to think with and take different thought journeys that explore grounded possibilities and limits. It unties Māori potato economies from one perspective and opens it up as an incomplete, unbounded, situated,

diverse, contested, relational and in-the-making (co-constituted by diverse objects, actors, values, institutions, political projects, and circulations).

This assemblage gives me a loose but deeply situated set of tools for making sense of Māori potato worlds. Whilst these ideas are not from the Māori world, they share certain ontological and epistemological openness and an ethical politics that renders their mobilisation appropriate in engagement with Māori worlds (Underhill-Sem & Lewis 2008), if appropriately undertaken on the ground (see Chapter 3). The openness, relationality and uncertainty of moments, sites and ideas are central in my encounters with taewa and my making sense of taewa economy. Categories shift and must shift in such travels and thinking. This theoretical assemblage (Table 2.2) allows me to theorise from novel sites, trajectories and moments and rework the normative and generative in economics. It provides me with a (re)thinking of economy from the ground-up, that no-less accounts for *shape* giving economic imaginaries [what it is to be economic] and structures [state political economies and the necessary investment in Māori worlds], but in framings that are not imposed in pre-conceived, pre-ordered and institution-bound categories. This does not imply empiricism, but rather frees me to think economy otherwise and encounter economy-making in all its contested, negotiated and possible forms performatively. I am freed to register a different form of economy making that is not singular, linear, and all about markets, humans, and capitalist aspiration or failure. Rather, taewa economy is open, lively and articulated to Māori, scientific, biological, and political worlds as well as capitalist worlds. It involves temporary and site specific comings together and orderings of diverse actors, values, practices, negotiations, politics, circulations, and ideas. My thesis asks how we are to know the world if this ‘is’ is the case and what this might mean for economic possibility.

**Table 2.2 A theoretical assemblage for understanding the constitution of economy (next page)**

	<b>Idea</b>	<b>Foci</b>	<b>A Māori potato economy</b>
<b>Cultural political worlds</b>	Cultural Political Economy (CPE)	State, imaginaries	Economic
	Actor-network theory (ANT)	Relationality, actors.	agency,
	Post- structuralist political economy (PSPE)	Projects & Spaces & intervention, enactive	practices, & moments,
<b>Continued next page</b>			

<p><b>Economy –making</b></p> <p>Economisation &amp; marketisation</p> <p>Actors, devices, goods, ideas, exchanges, experiments, calculative agencies Collectives, experimentation</p>	<p>Taewa economy is a set of circulations.</p> <p>Māori potato economies as emergent and unbounded circulations (agencements).</p> <p>Market and economic devices as performative actors.</p> <p>Knowledge and practices as framing and maintenance tools.</p> <p>Tāhuri Whenua as an institution which frames taewa economy.</p> <p>Aunty’s Garden as an economic market-making experiment in the wild.</p> <p>Māori potatoes as objects qualified by socio-technical agencements.</p>
<p><b>More-than-Economisation</b></p> <p>Practices &amp; frontiers</p> <p>Diverse economies</p> <p>Situated knowledge &amp; companions</p> <p>Systems of provision</p> <p>Stuff</p> <p>Justification</p>	<p>The object of ‘Economy’, Enacting economy (power, ideas, experts, projections), articulation between and across economic worlds</p> <p>Practices, values, exchanges, production, calculative agencies</p> <p>Situated knowledge, multiple knowledges, living and thinking with non-humans</p> <p>Categories</p> <p>Materiality, emergent, alive</p> <p>Different orders of worth, negotiation, coordination, more-than-‘economic’ value, moral economy</p> <p>Taewa economy-making involves frontier crossings between different economies.</p> <p>Taewa economies are diverse moral economies.</p> <p>Different and multiple viewpoints/knowledges constitute and shape possible taewa circulations.</p> <p>History and context shape economic circulation.</p> <p>Economy-making is not linear – there are failures and successes, these are read and look different between and across agents and participants.</p> <p>The wild is not a homogenous category.</p> <p>Taewa economy doing involves diverse economy activities and practices.</p> <p>Multiple polities (social, economic, cultural and political)</p> <p>Actor-object relations change and contest and produce situated knowledges.</p> <p>Experimentation is not just economic.</p> <p>Economy-making involves a multiplicity of situated knowledges. Not all knowledge is ‘economic’, nor does ‘economic knowledge’ frame all circulations.</p> <p>Devices require translation into other worlds – they may not be devices in their new contexts.</p> <p>Economy-making involves bio-socio-technical agencements.</p> <p>Markets are not the only point of exchange, nor are they the sole target, there are multiple diverse motivations.</p> <p>Taewa and psyllids are living mutant materialities across their lives.</p> <p>Economy-making is non-linear and not programmatic – it is challenged it may fail.</p> <p>Psyllids as companions for thinking and knowing economy differently.</p> <p>More-than market materiality</p> <p>Circulation and taewa exchange as negotiated (and coordinated) through multiple worlds of value (not just ‘economic’).</p>

## 2.5. Theorising Māori potato economies

In the chapters that follow, I draw on post-colonial and post-structuralist sensitivities, actor-network thinking and embodied and enactive practices to investigate and highlight the complexity and agency of different things, including the institutions, experiments and non-humans themselves as active agents in the constitution of taewa circulation and articulation. The aim is to unpack the *realities* of how taewa economy is made, expanded and unmade, so as to cultivate a deeper understanding of economisation that contributes to rethinking economy. The move is intended to make it possible to enact social and economic knowledge that transcends the power relations of orthodox economics and its performative accounts of

capitalist economies (see Underhill-Sem & Lewis 2008; FitzHerbert & Lewis 2010). By illustrating the realities of Māori potato economy-making, the aim is to enact a new productive potential for rethinking Callon *et al.*'s economisation and J.K. Gibson-Graham's a post-capitalist politics.

The theoretical assemblage I have brought together attunes me to the variegated and diverse objects, relationships, values, circulations, politics and actors co-constitutive of economy-making, and in particular articulation. These provide me with an apparatus to investigate the cultural-political economies from which taewa economies are constructed. My previous encounters with different taewa circulations emphasise the significance of the dynamism and relationality of taewa economy and the multiple dimensions of economic projects that are highlighted by post-structuralists seeking to rethink economy (FitzHerbert 2009). They point also to the significance of situatedness and performativity in apprehending economy enactively. The story of the taewa and its economy would be unrecognisable through conventional accounts. The dialogue among theorisations that I lay out above will allow me to treat economy as emergent and practice-centred, yet gripped in cultural and political projects. Importantly, taking taewa economy out of its situated alternative-capitalist articulations would shadow much of its liveliness and many of its contradictions, as well as neutralise some of the potentiality available to its actors in the politics of articulations with state and capitalism.

Extending economisation is critical - economy and market-making look different in Māori potato worlds. Whilst Callonist ideas capture the centrality of market-making, calculation and qualification, exchanges are qualified and ordered differently in contemporary Māori worlds, the moral escapes calculativeness and relationalities are further complicated. The taewa is, as Callon would suggest, never passive and never stable; things are more messy and qualification is situated. Making different things commensurable to ensure exchange may not always be the project. Bringing economisation into conversation with different and potentially complementary theoretical ideas and analytical frameworks will enact an understanding of economisation with a deeper sensitivity to spatiality, diversity and situatedness. It will enrich accounts of how economic categories and subjects are constituted and economy is negotiated.

I embody these ideas as I embody three journeys (engagements) with the Māori potato economy. The theoretical assemblage travels with me and gives me tools to grapple with the more-than human and more-than textual geographies of taewa circulation and articulation. They offer insights into the different and possible ways in which agricultural markets are constituted, performed and institutionalised, and they point to material objects as active agents in economy-making, the construction of markets and the production of meaning. The differences between different accounts remind me to acknowledge that economies are *different*, they are not systematic, nor are they laden with agency, rather they are *institutions* that are always in the making, contested, far from fully ordered and not bordered. They remind me also that as well as being made up of potatoes, people, organisations, bugs and viruses, economic experimentation, scientific research, the state, places, practices, circulation, investment, exchange, and technology, it is also made up of aspirations more or less stable

cultural meanings, and political projects within and 'outside' Māori economy. Taewa must navigate and negotiate articulations among these different objects and projects as they circulate and as they co-constitute all that they encounter. Taewa are both subjects and objects, and neither those of alternative, Māori, or capitalist economies alone.

As I journey, my aim is not to silence or flatten out the different perspectives on the world encompassed in the different ideas I mobilise with me, but to hold them in productive tension around the material articulations of objects, actors, imaginaries and projects with which I engage. In this way, they become generative of different and new encounters/journeys and render my own project continuously in-the-making and incomplete and open to different *lines of flight* (to use Deleuze's terminology). This openness leads me to keep questioning how circulation and articulation are made possible, who is at work in enacting them and through what nodes, and how they stabilise and become undone. I propose that this opens up new forms of economic meanings and practices, and allows me to ask how economy-making is co-constituted by situated collective experimentation, as well as to conduct enactive research in Māori potato-worlds. Mine is a theoretical project situated alongside others that seek to enrich the potential of economisation by grappling with already existing and messy worlds (Berndt & Boeckler 2009, 2012; Ouma *et al.* 2013), and re-produce and enact alternatives and possibilities – or as Gibson-Graham call, 'geographies of hope' (Law & Urry 2004, Thrift 2008, Gibson-Graham 2008).

Rather than merely looking at taewa circulations from the periphery, however, I move, see and act with(in) circulations, which opens me up to be affected in different ways and to learn economy as a co-constitutive enactor of circulations. I am privileged to be able to freely circulate with taewa as I become enrolled and mobilised by actors in the wild. This exposes me to the micro and macro politics in motion. Assembling and spatialising these bodies of thought enlivens my co-circulation with things. Journeying and circulation is always multiple, partial and emergent, and they are co-constitutive in encounters with multiple life-worlds; indeed, co-constituting situatedness itself, reframing, and bringing worlds of justification into unlikely articulation. Performing in this way and having effects is an inevitable consequence (Law & Urry 2004). This I recognise and do as an agent committed to enacting knowledge according to post-development principles (de Sousa Santos 2004; Gibson-Graham & Roelvink 2010; Lewis *et al.* 2009; FitzHerbert & Lewis 2010). Chapter 4 outlines how I go about doing this.

### Chapter 3: A cultural political economy for taewa

Māori consider taewa a taonga, a treasured cultural artefact rich with meaning. In recent years, taewa have become one of many objects of economic experimentation that are enlivening a contemporary renaissance in Māori cultural economy. Today's increasingly lively and diverse Māori economy is an assemblage of practices, institutions and relations that mobilise Māori-held resources to enhance livelihoods and realise social and cultural values and aspirations. This economy is firmly situated in a defining historical political economy that stretches across pre-colonisation, colonisation and the emergent 'post-Treaty' (of Waitangi) worlds. It includes activities ranging from marae-based gardens to investments in innovative energy production and biotechnologically advanced foods. The contemporary period of experimentation encompasses multiple bottom-up community building and environmental restoration initiatives. It also encompasses investments by iwi Trust Boards that began, in various partnerships with the state, to shape a capitalocentric Māori development project that is increasingly understood as the 'Taniwha Economy' and built on mobilising resources and assets that (some) Māori have (re)acquired (i.e. land, money, fisheries quota) from Treaty settlement processes. While prominent academics have questioned how and by whom it is being framed and whether it threatens to (re)colonise Māori through western epistemologies and capitalist imaginaries of what economy is (i.e. Durie 1998, 2003; Smith 1999; Mikaere 2000; Rata 2000; Bargh 2007), the Taniwha economy has been awakened as a major feature of both Māori life and national economy. In an idealised conception of the Māori economy, the Taniwha and marae-based economies which are mobilised by different actors, in different economic forms, with different aspirations will be folded into each other as part of a novel post-capitalist, post-colonial Māori economy (Bargh & Otter 2009). This ideal is commonly referenced to academic leader Professor Mason Durie's observation that *'ultimately, Māori development is about Māori people and if there is economic growth but no improvement in wellbeing, then the exercise is of questionable value'* (Durie 2003: 310).

In this chapter, I outline how taewa are part of both these broad domains of Māori economy and are already playing an important part in articulating its different dimensions and negotiating its local-global, capitalocentric-traditional, and economic-cultural rationalities and circulations. They are mobilised as economic objects that connect Māori historical and contemporary worlds, and as 'actors' that will assemble Māori land, Māori knowledge and Māori people into new cultural and economic relations. This chapter positions the resultant taewa economy in four contexts: the post-Treaty, government-Māori economic development agenda exemplified by the Taniwha economy; a traditional marae-based cultural economy in which taewa have particular significance to Māori; discourses and projects of indigenous entrepreneurship and innovation as bases for articulating the taewa economy to the Taniwha economy; and alternative diverse economy readings of Māori economic imaginaries by which

these discourses are becoming framed. These projects provide a contextual backdrop for the later empirical Chapters 5 to 7.

### **3.1. The Taniwha economy project: Māori, the Crown, experts, and economic experimentation**

The 'Taniwha Economy' is representative of a post-Treaty of Waitangi Māori economy. Boosted by treaty settlements, a number Māori iwi (re)possess significant *economic* resources. The largest Māori enterprises in terms of economic wealth and value are due to the settlement of historic Treaty claims. In this process, Māori, the Crown and various consultant economists have mobilised economic calculations and experiments to measure and 'unlock' the economic potential of Māori resources (i.e. people, land, enterprise, water and money). It seeks to articulate Māori resources into capitalist circulations to 'realise' the economic potential of Māori assets and resources. The emergent economy is largely situated in primary resources (i.e. fisheries and land-based sectors, agriculture, forestry and horticulture). Unlocking the value of primary resources is at the heart of the Crown-Māori development agenda.

Māori collectively and individually own approximately 1.47million hectares, roughly five percent of the New Zealand land mass (TPK 2015). Land is mostly rural and split between 27,308 individual titles, averaging fifty-three hectares in size and one-hundred owners per block. The estimated capital value of Māori land amounted to \$12.1 billion and agricultural enterprise contributed \$2.7 billion in Gross Domestic Product (GDP) (BERL 2011a). Dairy and forestry contribute much of this value as does the rent derived from Māori land leased to others. These measures are difficult to calculate, in part because borders between Māori and non-Māori economies are blurred by ownership structures, joint ventures, and the like; but the calculations are performed and the measures circulate as if they were 'truthful' materialisations of Māori economy. Nonetheless, they provide an estimate of the extent of Māori realisation of a desire to retain leased land and cultivate their own enterprises, a crucial revision of established framings of Māori land as under-developed and to recognise it instead as developable (an estimated 450,000 hectares) (Minister of Māori Affairs 2008<sup>5</sup>). State agencies also increasingly acknowledge the value of investment in Māori resources for unlocking Māori economic potential (e.g. Ministry of Social Development 2004; MoRST 2007; Treasury 2005a; TPK 2010) and providing a new basis for resourcing Māori to improve social outcomes among their people. This section outlines the Taniwha Economy project on three trajectories: Māori-government partnerships; economic expertise and making Māori economy projectable; and economic experimentation.

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<sup>5</sup> Dr Pita Sharples, Māori Party.

### 3.1.1. Mobilising the Taniwha Economy project: State-Māori partnerships.

In 2009 the conservative-led coalition government saw members of the Māori Party<sup>6</sup> become ministers of Māori portfolios, including the Ministry of Māori Affairs. The newly appointed Minister of Māori Affairs hosted the Māori Economic Summit<sup>7</sup> (28<sup>th</sup> January 2009), assembling approximately one-hundred-and-fifty iwi and Māori business leaders and Crown representatives to discuss Māori economic development and priorities (i.e. investment, the Māori-Crown relationship, education and employment, resource diversification and utilisation, enterprise and productivity, and research and development) (MET 2009). The summit's outcomes informed the establishment of the first Māori economic development authority, the Māori Economic Taskforce (MET) in 2009. This authority changed under each successive conservative coalition government and has assembled different prominent Māori and Pākehā experts. They establish and steer the Māori economic development agenda under the conservative government. Each authority represented a different phase of agenda development (Carter & Sharples 2011<sup>8</sup>). There have been three government-mandated Māori authorities, although it is unclear if Māori determine *who* becomes appointed on to them through Māori political structures. Pre-2009 Māori economic development was administered by government agencies. Since then, the MET and subsequent iterations of it, the Māori Economic Development Panel (MEDP) and the Māori Economic Development Advisory Panel (MEDAP), have informed and led the Māori economic agenda. Arguably, Māori now have greater agency.

MET received \$9million in Crown investment to develop Māori economic development strategies, document Māori economy, and implement economic experiments between 2009 and 2011. The Minister of Māori Affairs acted as chair and seven prominent Māori completed the group, each, 'experts' in tribal asset development, primary industries, social and community development, small to medium enterprises, investment and enterprise, education and training, and economic growth and infrastructure (Minister of Māori Affairs 2009a,c). According to MET's terms of reference they would 'protect and support Māori through a period of economic recession', 'identify strategic economic development opportunities for Māori', and 'promote and utilise kaupapa Māori and Māori structures as drivers of prosperity' (MET, 2009). The chair claimed that the MET was situated firmly within Māori values: *whānaungatanga* (the importance of relationships), *manaakitanga* (care of people), *kaitiakitanga* (guardianship of the environment), *kotahitanga* (togetherness) and *rangatiratanga* (self-determination or Māori control of Māori assets) (Minister of Māori Affairs 2009c). The MET proposed Māori had 'always

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<sup>6</sup> The political party Māori Party formed in 2004 in the wake of the government's foreshore and seabed legislation. Minister Tariana Turia left the Labour Party and her ministerial portfolio to establish the Māori Party with Dr Pita Sharples, a prominent Māori academic. The Māori Party sought to offer Māori a single political movement. In 2005 the party won four out seven Māori electoral seats in government. Then in 2008, they formed a confidence and supply agreement with the National Party led government. This relationship has continued with each successive National Party led government.

<sup>7</sup> This is the annual Māori economic summit. It was first established in 1984 and called Hui Taumata, whereby the Crown gave Māori a say in the priorities and agenda of Crown-Māori economic development.

<sup>8</sup> David Carter, Minister of Economic Development, and Dr Pita Sharples, Minister of Māori Affairs.

been traders and entrepreneurs’ and that it would ‘recapture and reconnect these concepts to develop economic strategy and lift Māori economic outcomes’ (MET 2009). They mobilised a number of projects (i.e. Brand Māori and Māra Kai) and commissioned economists to calculate Māori Economy and model various investment scenarios. The resulting representation captured Māori Economy in capitalist terms, revealing a significant economic asset base, its value in terms of GDP, and how it needed unlocking in order to maximise economic potential (BERL, 2010). The Minister framed this as ‘awakening the Taniwha economy’ (Minister of Māori Affairs 2012b).

MBIE and TPK established MEDP, an independent authority to develop economic strategy, target investment and develop policy between 2011 and 2013. MEDP featured some MET members and included non-Māori economists and business experts. They claimed, ‘*action is needed to realise the potential of the Māori economy’ and that Māori needed encouragement to ‘actively develop their own capacity’ (MEDP 2011; see also, 2012a,b,c) - action being investment and experimentation. They developed *He Kai Kei Aku Ringa, a Māori economic agenda* drawing on MET’s publication *The Asset Base, Income, Expenditure and GDP of the 2010 Māori Economy* (discussed in the next section). The agenda has six strategic goals: enhance educational participation and performance; build a skilled and successful workforce; increase financial literacy and savings; enable growth (through partnership with the Crown and research, development and investment); develop natural resources (i.e. ‘realise the productive value of Māori land’); and, mobilise Māori Inc. (Brand Māori) as a driver of economic growth (MEDP 2012a). It is ‘the blueprint’ for Māori economic development and attends to three objectives: one, improve Māori economic performance and productivity; two, clarify the Crown’s role in Māori economic development; and three, consider the Māori role in Māori economic development. It is projected through to 2040. MBIE and TPK established MEDAB in 2013. It is chaired by an original MET member, contains one Māori MEDP member and three Māori business leaders. They provide MBIE and TPK stewardship, monitoring, evaluation, and assistance in regard to embedding He Kai Kei Aku Ringa across government and Māori. They have a dedicated Māori Agribusiness Partner Working Group, made up of Māori and industry experts. MBIE’s Māori Economic Development Unit coordinate the ‘blueprint’ across government ministries and agencies. MEDAB essentially steer *Māori economic development*.*

MET, MEDP and MEDAB proposed and implemented projects, commissioned economists and other researchers to document Māori economy, and inform the Crown-Māori economic development agenda. Their work is a part of the Government’s overarching Business Growth Agenda. The Taniwha economy is in these ways as much an object of political intervention as a category of economic practice. As the Minister of Māori Affairs claimed

... economic development is vital to our development as Māori and maximising our contribution to the nation. Our distinctive approach, our Māori edge, is adding real value to New Zealand Inc. (Joyce & Sharples 2012<sup>9</sup>)

State agencies clearly support Māori development agencies, but it is the latter who are beginning to set the Māori economic development agenda (to an extent) (Minister of Economic Development and Minister of Māori Affairs, 2011<sup>10</sup>). He Kai Kei Aku Ringa, for example, is an economic device at *work* constructing the Taniwha economy and its means of reawakening. *Nonetheless, the understandings, calculative practices and expertise mobilised in the making of the Taniwha economy project relates largely to MBIE’s Business Growth Agenda which focuses on matters such as export markets, innovation, infrastructure, skilled workforce, natural resources, and capital (MBIE 2014a). MBIE is now the lead state agency in Māori economic development rather than TPK: Māori economic development information feature on the MBIE website (not TPK anymore) and reports on progress feature in their New Zealand Business Growth Agenda reports (i.e. MBIE 2013, 2014a).*

**Table 3.1 Māori led Māori-Crown Māori economic development**

Mandated Māori Development Group	Reports to (Ministry)	Members	Projects	Projections
Māori Economic Taskforce	TPK	Chair: Minister of Māori Affairs  Members: Seven prominent Māori iwi and business leaders	- Māra Kai Fund - Brand Māori - Māori business networks and collectivisation - Measure Māori Economy - Export markets and trade delegations	- Calculation of Māori Economy: see publication, <i>The Asset Base, Income, Expenditure and GDP of the 2010 Māori</i> - Creation of the ‘Taniwha Economy’ (Minister of Māori Affairs 2012b). - Māori economy as underperforming.
Māori Economic Development Panel	TPK & MBIE	Chair: Previous member of MET  Members: Non-Māori economists and business experts	- Economic agenda-setting and policy (i.e. He Kai Kei Aku Ringa) - Build capability in economic expertise - Māra Kai Fund (ongoing) - Māori science and Innovation - Export markets and trade delegations - Māori Business Boot Camp at Stanford University	- Economic priorities. - Unlocking the Taniwha economy. - Expose Māori business leaders to ‘world class business perspectives’.
Māori Economic Development Advisory Board	MBIE	Chair: Previous chair of MET  Members:	- Oversee He Kai Kei Aku Ringa - Research and Development - Advise MBIE and TPK - Māori business kick-starts and expertise	- He Kai Kei Aku Ringa as economic device. - Embedding Māori economic development in the State’s National Growth Agenda

<sup>9</sup> Steven Joyce, Economic Development Minister, and Dr Pita Sharples, Minister of Māori Affairs.

<sup>10</sup> See Carter & Sharples (2011) in reference list.

### 3.1.2. Projecting the Taniwha economy: economic expertise and making economy calculable

MET commissioned BERL Economics Ltd to calculate the Māori economy and publish *The Asset Base, Income, Expenditure and GDP of the 2010 Māori Economy*. This generated the Taniwha economy and informed the economic agenda. BERL 'apply economics' to understand problems and provide 'expertise'. They aim to be 'experts' for Māori economic development. Taniwha economy was calculated by measuring the Māori asset base, Māori income and expenditure, and Māori gross-domestic product. Previous Māori economy calculations exist (e.g 2001, \$9.4billion; 2006, \$16.5billion); but BERL generated a significantly higher value. The Taniwha economy was worth \$36.9 billion, a \$20.4 billion increase on the 2006 figure. BERL claimed the increase due to 'more comprehensive data' and 'adoption of different and more robust assumptions' (this accounted for \$11.6 billion), an increase in capital goods prices (another \$3.1 billion), and real growth of the asset base increased by 18% between 2006 and 2010 (\$5.7 billion) (BERL 2011a). They declared Māori economy the 'sleeping giant' of the New Zealand economy (BERL 2010) and the Minister of Māori Affairs called it the Taniwha economy (Minister of Māori Affairs 2012b). The release of the report at the Māori Economic Summit (Auckland, 5<sup>th</sup> May 2011) generated considerable traction among Māori, industry and the Crown. It signalled that Māori were now framing the Māori development agenda, this agenda is tied to New Zealand's economic growth agenda, and industry sought new investment opportunities. The Taniwha economy has been brought into being as a pivotal representation of Māori economy.

BERL measured Māori *commercial* 'assets', 'income' and 'expenditure' and linkages to other economic sectors. Assets included collective (i.e. owned by Māori trusts, incorporations, organisations, boards, mandated iwi and asset holding companies) and individual assets (i.e. Māori businesses, either Māori employers and/or self-employed Māori). Income included formal earnings (i.e. salaries, wages, state pensions and welfare payments, and dividends). Expenditure encompassed formal transactions. The categories measured all fitted within the capitalist economy. Values were related to economic measures of Gross Domestic Product (GDP) and the Social Accounting Matrix (SAM), in-order to revise the Māori asset base, recalculate its economic contribution to New Zealand GDP, and revise SAM representations of transactions within, in and out of the Māori economy. Table 3.2 outlines the 2010 Māori economy per sector - the majority of the asset base is within the primary industries (i.e. agriculture, horticulture and fisheries). Māori economy contributed a similar amount to New Zealand GDP as previous calculations; despite asset base growth. SAM analysis showed approximately 20% of average Māori household income was from government social welfare support - roughly 5% higher than non-Māori households, with net savings more than double the average non-Māori household (Table 3.3). BERL claimed 'Māori were not generating wealth' and Māori economy was 'underperforming' (BERL 2011a). Politicians and MET relayed this claim, and it is the impetus behind the State-Māori Taniwha economy project. The 'underperforming' Taniwha economy 'as object' generated a 'new' Māori economic development agenda targeting Māori people, Māori enterprises and Māori land.

**Table 3.2 Māori Economy Asset Base and Enterprises 2010 (source BERL 2011a)**

ANZSIC 1996 Division level classifications	Māori Self Employed		Māori Employers		Māori assets as % of total NZ	Owned by Māori collectives	Total \$million
	Estimated # of enterprises	Asset Base (million)	Estimated # of enterprises	Asset Base (million)	Asset Base (million)	Asset Base (million)	
Agriculture						\$ 2,530	\$2,530
Forestry						\$ 2,242	\$2,242
Fisheries						\$ 1,035	\$1,035
Agriculture, Forestry, Fisheries	1356	\$ 1,534	747	\$3,238	4.3	\$5,807	\$10,579
Mining	8	\$ -	0	\$ -	0	-	-
Manufacturing	753	\$250	369	\$1,767	3.3	\$573	\$2,591
Electricity	17	\$ -	0	\$ -	\$0	\$270	\$270
Construction	2247	\$397	1152	\$1,040	6.7	\$ -	\$1,438
Wholesale Trade	340	\$93	184	\$675	2.9	\$ -	\$768
Retail Trade	888	\$98	735	\$660	3.6	\$ -	\$758
Accommodation, Cafes & Restaurants	271	\$22	356	\$289	5	\$ -	\$311
Transport & Storage	603	\$366	286	\$2,439	7.7	\$ -	\$2,806
Communication	299	\$323	61	\$1,958	9.7	\$ -	\$2,282
Finance & Insurance	205	\$112	63	\$1,484	3.1	\$ -	\$1,597
Property & Business Services	2213	\$1,525	783	\$4,583	3.8	\$808	\$6,916
Government	144	\$ -	12	\$ -	0	\$ -	\$ -
Education	390	\$41	114	\$950	8.8	\$278	\$1,269
Health & Community	573	\$39	167	\$286	2.8	\$66	\$391
Cultural Recreational & Personal Services	1489	\$269	400	\$877	7.8	\$2,813	\$3,958
Other	1121	\$370	264	\$589	5.8	\$-	\$959
<b>Total</b>	<b>12,916</b>	<b>\$5,694</b>	<b>5,690</b>	<b>\$20,837</b>		<b>\$10,620</b>	<b>\$36,897</b>

BERL has undertaken other calculations, produced other reports and provided expertise to MET, MEDP, MEDAP and TPK. The report, *The Māori Economy, Science and Innovation* modelled investment scenarios in Māori science and innovation calculating the 'potential value' of various investment scenarios (BERL 2011b).

- *Scenario 1:* Increased productivity – the level of productivity in the Māori economy is lifted to be the same as the national average across all industries by 2061.
- *Scenario 2:* Improved export effort – world demand for export products from New Zealand grows across a range of industries such as agriculture – dairy and meat products; forestry – logs and wood; fish – fish and aquaculture products; tourism; education; and other services.
- *Scenario 3:* Investment focus – more science and research investment is directed into the Māori economy, resulting in capital accumulation but not application to lifting productivity or commercialising into new products or new markets.

- *Scenario 4: Doing nothing* – a doing nothing assumption is applied and the model used to stimulate the changes in various economic measures due to running down or devaluing the asset base (BERL 2011b: 16).

BERL claims that current ‘science and innovation effort’ did not deliver ‘the outputs needed to transform the Māori Economy’ (BERL 2011b: 12). They reject *Scenario 4* as an option. Successful investment (i.e. *Scenarios 1 and 2*) could generate an additional \$12.1 billion per annum in GDP by 2061 but would require ‘more than just investment’. Putting aside the problems of measurement that compromise any effort to project investment returns, BERL favours *Scenario 3* which mandates communication and behaviour change and the strengthening of relationships among scientists, ‘innovators’ and ‘Māori entrepreneurs’ (BERL 2011b). Building on from the 2010 Māori economy calculation, BERL has calculated regional Māori GDP profiles using the same metrics. Profiles are measured and compared to national Māori GDP and New Zealand GDP (see for example, TPK & BERL 2009; TPK *et al.* 2014). Likewise BERL experts are embedded in the co-production of regional economic strategies (see for example, Bay of Connections Economic Strategy 2014). The reports and advice align with *He Kai Kei Aku Ringa* and propose to understand the significant drivers of future regional economic success. Indeed, BERL informed the development of *He Kai Kei Aku Ringa*.

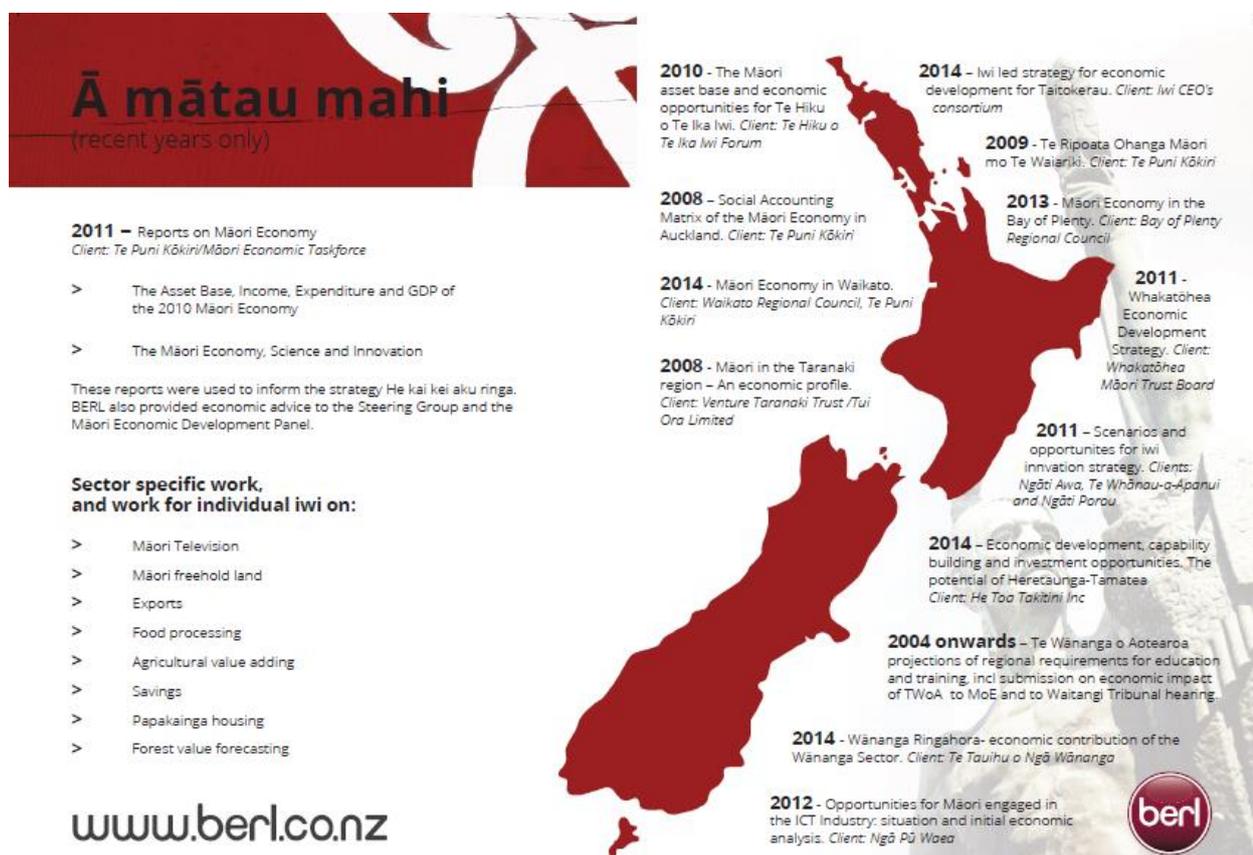
**Table 3.3 SAM calculation of Māori Household income and expenditure 2010 (adapted version of BERL 2011a)**

	Māori (\$million)	% of Māori Income	Non-Māori (\$million)	% of Non- Māori Income	Total NZ (\$Million)
<b>Income</b>					
Wages and salaries	8,927	60.5	75,335	56.1	84,261
Social welfare support & benefits (Crown)	3,059	20.7	18,363	13.7	21,422
Entrepreneurial & dividend income	1,264	8.5	20,849	15.5	22,113
Operating surplus in owner-occupied dwellings	1,030	7.0	8,880	6.7	9,910
Interest, pension fund earnings & insurance receipts	407	2.8	10,458	7.8	10,865
Overseas transfers	72	0.5	427	0.3	499
<b>Sub-total</b>	<b>14,758</b>		<b>134,312</b>		<b>149,070</b>
<b>Expenditure</b>					
Consumer expenditure	15,904		93,587		109,491
Income & other tax, social security, fines & penalties	2,525		24,268		26,793
Interest on consumer debt & housing	953		8,210		9,163
Investment in owner-occupied dwellings	715		6,165		6,880
Pension fund contributions	166		4,042		4,208
Overseas transfers	45		262		307
<b>Sub-total</b>	<b>20,308</b>		<b>136,535</b>		<b>156,842</b>
<b>Net savings</b>	<b>-5,549</b>		<b>-2,223</b>		<b>-7,772</b>

BERL is thus becoming a crucial intermediary between the state and the Māori economy, and a key framer of the agenda. In addition to measuring economy and advising the MET, MEDP and MEDAP, BERL provides expertise to other Māori, Crown and Local Government entities (e.g. Federation of Māori Authorities, Ngāi Tahu Property Limited, Aotearoa Institute, Te Wananga O

Aotearoa, Waikato Regional Council) – see Figure 3.1 for an outline of the expertise they have provided Māori and the Crown in regard to Māori economic development. Other consultancies are also involved. The Ministry of Primary Industry through their Māori Primary Sector work group commissioned Price Waterhouse Coopers (PWC 2013, 2014a, 2014b) and Kinnect Group (2014) expertise to model and analyse various Māori investment scenarios and business prototypes in Māori primary industry. Economists are at work and embedded in the Taniwha project – their economic categories and definitions and projections of economy *work* to co-produce and enact the Taniwha economy. Economists and their calculations are awakening the Taniwha economy and framing it as an economic object. It is being modelled, made commensurable with other economies, and made projectable into different national, regional and Māori agendas and political projects by performative calculations, projections and framings of economy. Indeed, they claim it is ‘too risky’ to do nothing with the Taniwha economy, both in terms of Māori GDP and New Zealand GDP.

**Figure 3.1 A recent history of BERLs economic expertise and economic reports in Māori economic development (Source BERL 2014)**



### 3.1.3. ‘Reawakening Taniwha economy’: economic experimentation.

MET (and its subsequent iterations) have sought to awaken and animate the Taniwha economy through experimentation. Some experiments have involved taewa. MET’s economic experiments informed *He Kai Kei Aku Ringa*, which now gives subsequent projects form.

Projects attend to matters of concern such as educational participation and performance, skilled and successful workforce, financial literacy and savings, growth partnerships with the Crown, research, development and investment, and resource development. Each iteration sees Māori Inc. as a vehicle for Māori economic growth [i.e. being Māori is a value-adding activity – brand Māori (MEDP 2012a)]. The Māori primary sector is a priority area and has received considerable attention and investment. Improving productivity of Māori owned and controlled primary sector assets is seen as a means to generate long-term asset growth, local and in-market job opportunities and increased incomes (Smith *et al.* 2015). Each experiment is informed by economic expertise, projections and statistics. The emphasis on primary resources brings the Taniwha project to bear on economic experimentation and investment in the taewa world. Taewa are mobilised as an object to encourage horticulture on Māori land and foster capitalist market exchange around diverse and community economy activities. Key projects of relevance include Māra Kai, Brand Māori and Māori collectivisation, and research and innovation. These seek to increase Māori land utilisation and/or develop commercial exchange opportunities.

MET launched the Māra Kai project in 2009 to encourage utilisation of Māori land for food production. Māori marae groups could apply for a maximum of \$2,000 to establish ‘small’ and ‘non-commercial’ vegetable gardens on marae or Māori community land. In addition to the utilisation of Māori land, the Minister’s aspirations behind Māra Kai included rebuilding the knowledge and practice(s) of gardening amongst Māori:

Māra Kai encourages healthy outdoor activity, learning survival skills of planting, growing, harvesting and storing fruit and vegetables. Additionally there are the community and social benefits including strengthening communities; sharing of kai (food); passing on of knowledge and experience and bringing generations together to grow, harvest and enjoy their kai (MET 2011).

He claimed Māra Kai would help ‘build a long term sustainable Māori economy’ (Minister of Māori Affairs, 2009b). MET invested \$168,945 in 123 gardens between 2010 and 2011. At the end of 2011 there were roughly 450 funded gardens, an investment of approximately \$900,000 between 2009 and 2011 (TPK, 2011). MET (2011) claim Māra Kai has successfully brought Māori (back) into gardening, shared traditional knowledge, produced food and some commercial opportunities. Others have suggested the project has enhanced Māori food security (McKerchar *et al.* 2015). Whilst Māra Kai was not originally about commercialisation, such instances are celebrated – it has become enactive as an economic experiment seeking to encourage market-exchange.

MET mobilised Brand Māori in an effort to leverage commercial value from the idea of a Māori brand, exploit the Māori-ness of products and collectivise Māori producers. Brand Māori was not new. It emerged in the late 1990s (TPK 1999), but between 2002 and 2008 the Labour government invested in Waka Tohu, a project focused on fostering Māori businesses competitiveness in domestic and international markets (e.g. Jones & Morrison-Briars 2004a, 2004b; Jones *et al.* 2005a, 2005b; NZIER 2003b, 2005a, 2005c). The momentum was taken up by

the National government from 2008 onwards and it has mobilised Brand Māori similar to BrandNZ. Brand Māori (or Māori branding) is a key theme in the Māori economic development agenda (see for example, TPK 2011; MEDP 2012a). Based upon an economic rationalisation it promotes the Māori dimensions of products so as to enhance value and create new value. This can be applied to exportable commodities, including but not limited to Māori art, Māori tourism, Māori services and Māori agricultural and horticultural products. MET re-launched Brand Māori and put it to work as a market-making experiment in their development agenda in 2009. They defined Brand Māori as the need for a high level brand that introduces ‘New Zealand Māori & Māori New Zealand’ to markets – to raise market awareness of ‘who and where Māori are and what Māori have to offer global markets’ (TPK 2011).

Brand Māori was imagined to work with a set of ‘Māori Brands’ as an umbrella brand for developing ‘compelling high quality Māori brands with anchor companies or consortia that can act as sector exemplars demonstrating the value and potential of Māori branding’ (TPK 2011). In particular, MET sought to embed Brand Māori in the primary sector (i.e. seafood, dairy, vegetables, honey and wine), via sub-project *E Tipu Initiative for the Primary Sector*, which sort to identify niche markets for Māori (export) produce, develop Māori (export) brands to promote high end value-added Māori products to (international) markets, and investigate trade relationships with other indigenous peoples (Minister of Māori Affairs 2009c). They proposed that ‘genuine Māori products’ had a distinct advantage and point of difference in the domestic and international market place (i.e. a Māori brand was value-adding). They co-invested with Māori in a number of primary industry projects (e.g. Aunty’s Garden, Te Ahikā Kai, Indigenous New Zealand Cuisine, and Miere Coalition).

In relation to Brand Māori, MET encouraged the development of Māori co-operatives aiming to generate better economies of scale for Māori producers. Small and medium sized Māori enterprises face significant market costs of entry, exposure to overseas trend and prices (NZIER 2003c, 2005a). The formation of Māori co-operatives was claimed to improve productivity gains, reduce costs and provide financial security (NZIER 2005a; BERL 2011, 2012). MET hosted numerous co-operative and Brand Māori workshops (e.g. the ‘land to brand’ workshop). They co-invested with Māori asset-holding companies and trusts to establish numerous co-operative Brand Māori economic experiments to test their potential in the market place (e.g. Aunty’s Garden, Te Ahikā Kai<sup>11</sup>, Indigenous New Zealand Cuisine<sup>12</sup>, and Miere Coalition<sup>13</sup>). MET, TPK and BERL economists believe generating greater scale amongst Māori enterprises will better position Māori to ‘exploit’ domestic and international market opportunities. In addition to these investment and project streams, the Ministry of Primary Industries has established a number of funds (such as a Māori round of their Sustainable Farming Fund in 2011) and commissioned a series of reports specifically designed to ‘unlock’

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<sup>11</sup> See <http://www.ahikakai.co.nz/> and Reid & Rout (2015).

<sup>12</sup> See <http://www.inzc.maori.nz/>.

<sup>13</sup> See <http://www.poutama.co.nz/business/miere/>.

Māori primary assets. The ideas of Brand Māori and Māori cooperatives are informed by economists. They are economic experiments that seek to establish greater access and value for Māori in capitalist market exchange.

### **3.1.4. 'Enacting' the Taniwha**

*I think it is pretty clear that the Taniwha economy is no longer asleep* (Minister of Māori Affairs 2012a)

Awakening the Taniwha economy has mobilised policy, investment and economic expertise and experimentation in Māori economy. Māori have a say and give form to State-Māori agenda setting and state investment. The Crown remains ever-present in the form of state agencies and colonial patterns of ownership and dispossession and contemporary post-colonial processes of restitution. Economic experts measure and abstract 'the Māori economy'. The Taniwha project aligns Māori aspirations, government's growth agenda, domestic and global capital and financial institutions, and global management consultancies. Multiple actors want a piece. For those concerned with the project's capitalocentrism, there is a need to develop alternative economic measures, framings and aspirations and appropriate politics and governance processes for questioning the substance of Māori capitalism and who frames and benefits from it (Smith 2011; Bargh 2014; Rata 2011a, 2011b; Sykes 2010; McCormack 2010, 2013).

Becoming projectable has attracted new interest in the Māori economy, especially from financial and consultancy management institutions. International management consultancies and finance institutions have established their own dedicated Māori business and financial service groups (i.e. Price Waterhouse Coopers, Bank of New Zealand, Deloitte etc.). Pre-Treaty settlement, these institutions tended to consider Māori enterprise risky, due to Māori collective ownership, the type of industry, location of Māori assets and lack of finance (NZIER 2005a). Now they are after a stake in the Taniwha economy (e.g. Royal Bank of Scotland is co-investing with East Coast Māori in forestry). A prominent Māori scientist, who asked to remain anonymous, claimed:

...a lot has changed, previously when Māori (Trusts and Companies) approached these institutions... they were shunned... now (as their assets have been valued) the banks and consultants come to them... and it's these institutions (e.g. Bank of New Zealand, BERL and Price Waterhouse Coopers) which largely sponsor key Māori economic hui (Anonymous 2014).

BERL Chief Economist Dr Nana proposes by 'growing Māori enterprises and the Māori economy... we all gain' (BERL 2012). The State's export agency New Zealand Trade and Enterprise (NZTE) now features the Māori economy in its promotion of New Zealand's investment advantage for international investors. They quote BERL's valuation and state the emergence of joint venture opportunities between Māori and private sector investors (NZTE 2014). Similarly they quote instances when Māori entities feature in international business journals (e.g. a story about Ngāi Tahu in the *Wall Street Journal*, see Craymer 2014). As the

Taniwha economy has become calculable and projectable in capitalist terms, in unison with 'unlocking' assets project, it has generated potential revenue streams for those looking to invest in 'the now' and capitalise on state co-investment in Taniwha projects such as MBIE's Te Punaha Hihiko Vision Mātauranga Capability Fund.

The Taniwha project raises a number of questions. What is 'economy' in this project? How is economic success framed? Does this project privilege capitalism over diverse Māori economy? Does the project legitimise capitalist notions of economy? On the surface the answers are capitalist and yes. The purpose of this section (and indeed the dissertation as a whole) is not to evaluate this project. Rather it is to place the taewa in this economy and outline how taewa play a part in articulating the Taniwha economy with other Māori economies. The Taniwha injects investment and projects other economic imaginaries into taewa economy; the taewa economy speaks to the Taniwha from the margins of Māori economy in terms of aspirations and practices, these disrupt capitalist imaginaries. Indeed the taewa economy may offer an account of how the Taniwha may be enacted from the ground-up.

There are four key messages to take from this account of the Taniwha economy. First, by framing Māori economy in terms of capitalist process and economic imaginaries of what it is to be economic, it repositions Māori development, sets new agendas, and draws lines between the Taniwha economy and other economies. Second, the creation of value in the Māori economy points to the circling actors trying to get a hand on their chunk. Third, the Taniwha economy highlights the increasing role of Māori themselves in framing and advancing not just the Māori economic project but also the national development agenda. And, fourth, it is trying to bring something into being - Taniwha economy as an object - making Taniwha economy calculable and comparable to other economies. Significantly, taewa are situated within the Taniwha economy project and the Taniwha project partially situates the taewa economy in terms of investment. The Aunty's Garden market-making experiment emerges from this project, which has also generated investment for Tāhuri Whenua, while the potato psyllid represents an uninvited and unwelcome interruption.

### **3.2. Taewa economy**

Taewa belong to the potato family which originated in South America (i.e. Peru and Chile) (Roskrug 1999; Roskrug *et al.* 2010; Puketapu 2011). The pre-colonial Māori economy was largely based upon hunting and gathering, with some horticulture in regions that had suitable kumara growing conditions (Firth 1929 [1959]; Shawcross 1970; King 2003; Walter *et al.* 2006). Early contact with European sailors and settlers gave impetus to horticulture, especially the potato. Māori cultivated vast amounts of land into potato plantations, the harvest would be exchanged with other Māori and early Europeans. Taewa became a significant commercial endeavour for Māori (Best 1925:1976; Cameron 1964; Leach 1983; Roskrug 1999; Harris 2001, 2006; Petrie 2006). This section discusses how taewa arrived to Aotearoa and its incorporation into Māori life.

### 3.2.1. Taewa histories and values.

Māori brought kumara to Aotearoa, but kumara was only one of a number of carbohydrate sources available to early Māori settlers. Taewa were not in Aotearoa before Māori contact, nor did Māori bring them on their first voyages. When taewa came to Aotearoa it quickly became a primary food source. Potatoes became central to Māori horticultural enterprise and opened up horticulture in places that had not been able to cultivate kumara due to climatic conditions (Cameron 1964; Trotter & McCulloch 1999; Petrie 2006; Walter *et al.* 2006). Just how and when taewa arrived to Aotearoa is a matter of debate. In all likelihood taewa arrived at different places at different times. Each iwi has its own story, often reflected by their ascribed taewa names. Pākehā histories claim European explorers (e.g. as per Table 3.4) introduced potatoes (Best 1925 [1976]; Firth 1929[1959]; Hargreaves 1963; Richards 1993). The history is contested but it is clear that taewa were present in Aotearoa in the late 18<sup>th</sup> Century, became widely established by the early 19<sup>th</sup> Century, and featured prominently in Māori diets and economy.

In my encounters with Māori groups, some suggest taewa arrived to Aotearoa earlier than Pākehā encounters. Whilst taewa did not arrive upon the discovery of Aotearoa, they attribute its arrival to other routes, encounters and exchanges. The details are part of oral histories belonging to these groups which are not my place to share, but Roskrige (2007, see also 2009) suggests taewa arrived by chance encounters before documented contact (see also, Hammond 1894; Richards 1993, Harris 2001; Horrocks *et al.* 2008; Puketapu 2011). These likely arrived via European voyages (especially, whalers and sealers), whereby Europeans took potatoes with them and established food stores in remote places on travel routes (including, Australia and New Zealand). Additionally they may have traded potatoes with Māori for other food (Roskrige 2007), likewise, Richards (1993) suggests Māori may have also salvaged potatoes from marooned European ships.

**Table 3.4 Non-Māori introductions of taewa (adapted from, Harris and Niha 1999:140)**

Date	Place	Whom
1766	Bay of Islands	Captain Stivers <sup>14</sup> (Richards 1993)
1769	Doubtless Bay Mercury Bay	Jean Francois Marie de Surville James Cook
1772	Moturua Island, Bay of Islands	Marc Joseph Marion du Fresne
1773	Marlborough Sounds Dusky Sound	James Cook James Cook
1793	Bay of Islands	Lt Governor King

Māori adopted taewa with vigour and it became a primary source of nutrition. They provided a food source and exchangeable item (between Māori and to non-Māori), and allowed

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<sup>14</sup> Richards (1993) believes that Captain Stivers (or Stuyvers, or Stuivers) who was part of the Dutch East Indian Company may have first introduced taewa to New Zealand.

Māori to inhabit areas previously uninhabitable. Taewa soon spread across different Māori groups throughout Aotearoa. Taewa were easier to cultivate than kumara, fitted into existing kumara planting regimes, could grow almost anywhere, required less labour, were less prone to frost damage, provided abundant crops of nutritious food, and stored well over winter (Hargreaves 1963). Māori could grow food and feed themselves throughout the year, but taewa made them more self-sufficient and extended the subsistence food supply under their own control (Roskruge 2009). Māori named taewa generically but different varieties were named differently and inscribed with particular meanings and values, often reflecting their colour and shape. Both variety and generic names differed across iwi. For example, the name taewa translates roughly as the arrival of a new thing, such as a foreign object and the flu (Roskruge 2012). Taewa were also exchange goods and Māori exchanged taewa with other Māori and with Europeans. Furthermore as Europeans settled in Aotearoa, Māori cultivated large tracts of land for taewa production for exchange purposes. They also adopted numerous western tools to support cultivation (e.g. the plough, see Schaniel 2001). Significant taewa enterprises emerged and Māori constructed domestic and trans-Tasman circuits of exchange (see for example, Firth 1929; Graham 1948; Merrill 1954; Leach 1983, 1984; Waa & Love 1997a, 1997b; Petrie 2006). This enterprise continued through much of the mid-19<sup>th</sup> Century. Taewa were a key commodity in the early Aotearoa New Zealand economy. It is possible, even, that they became implicated in the writing and structuring of the Treaty itself, with the coincidence of the signing with the narrow taewa harvesting window preventing some chiefs from attending and leading others to return home early and thus cutting short the deliberations (Thompson 2010).

The taewa economy declined from the Māori land wars onward (1860). The Crown either confiscated significant tracts of Māori land during the war or divided land into individual title as part of the colonial project (Sorrenson 1956; Hargreaves 1960; Petrie 2006). This led to a significant reduction in Māori land – from being Aotearoa, Māori would own approximately 5% of the Crown's New Zealand land. Additionally, Pākehā started to establish horticultural enterprises (Harris & Niha 1999; Roskruge 1999; Petrie 2006). Māori commercial enterprise declined and was further decimated due to blight at the start of the 20<sup>th</sup> Century (Harris 2006). Processes of colonisation and the loss of land led the decline in taewa economy throughout the late 19<sup>th</sup> and 20<sup>th</sup> Century (Fitzpatrick 2007). Some Māori continued to grow taewa albeit on much smaller scales and typically non-commercial. Māori elders kept taewa alive in backyard gardens and on the marae to feed whānau and the marae (Roskruge 1999). Elders saved taewa seed at the end of each harvest for their next crop; however seed was not often shared – taewa stayed in place. The accessibility of taewa seed, taewa stories and taewa knowledge waned significantly during the 1900s.

### **3.2.2. Contemporary taewa worlds (and projects).**

Taewa make up a marginal portion of the contemporary New Zealand food economy and make up only a fraction of Māori agribusiness, but they are still seen as taonga and are important parts of Māori economic and cultural worlds (Roskruge 1999; Harris 2001). Taewa are passed

down through the generations from their ancestors, establishing connections between the old and current Māori world. As Roskruge (2009) claims, growing and eating taewa are a Māori experience:

... it is a part of who you (Māori) are because you grow up with these foods, and they are not food you can access in the supermarket everyday. They are part of what makes you (Māori) unique.

Since the late 1990s taewa have undergone a renaissance as part of projects to encourage and enhance Māori horticultural development (i.e. Harris & Niha 1999; Roskruge 1999; Harris 2001; McFarlane 2007; Lambert 2008). Whilst the Taniwha economy more generally has come in for criticism (Durie 1998, 2003; Smith 2006; Coombes 2003; Bargh & Otter 2009), the Māori horticultural project has escaped criticism of capitalocentrism (Roskruge 1999; Harris & Tipene 2006; Moeke-Pickering *et al.* 2015). Taewa are promoted as having the potential to re-establish the relationship between Māori and their culture, land, and indigenous knowledge of resources and the environment. The taewa project as a form of horticultural (and economic) development is led by Māori for Māori. The National Taewa Māori (NTM) project marked a significant taewa renaissance amongst Māori and broader New Zealand. Initiated largely by Nick Roskruge, a Māori scientist and chairman of Tāhuri Whenua, the project drew on Durie's (1995a) 'whare tapa wha' model to encourage taewa economy. Whare tapa wha (the four walls of a house) is a metaphor for a holistic conception of well-being - each wall represents a different dimension (Taha wairua, spiritual; taha hinengaro, mental; taha tinana, physical; and taha whānau, extended family). Attending to all four walls is necessary to ensure strength and holistic wellbeing (Durie 1995a). NTM encouraged and resourced Māori to continue and return to growing taewa on collectively owned land, and established a Māori vegetable growers' association (Tāhuri Whenua), and developed Māori (commercial) horticulture within the broader New Zealand horticultural industry (Roskruge 2005). Significantly, the project discovered Māori groups wanted to cultivate taewa on Māori land. The project initiated a virus-free seed project and investigated commercialisation opportunities. NZIER (2003b) claimed that NTM achieved commercial success by helping to marry cultural values with scientific knowledge.

Other projects emerged alongside the NTM and have attracted an academic literature. Turi McFarlane (2007) described taewa production as a cultural performance that linked cultural aspirations to utilise Māori vegetables, Māori land and Māori knowledge. Simon Lambert (2007, 2008) examined the contribution of taewa production and Tāhuri Whenua to cultural, social and economic resilience, and Māori entrepreneurship. He claims that the taewa economy successfully integrated western scientific knowledge into Māori worlds. Similarly, Aleise Puketapu (2011) demonstrated the cultural value of taewa and its cultivation, and the significant loss taewa growers felt as taewa died due to potato psyllid invasion. In my own work as an outsider (FitzHerbert 2009), I documented the diverse practices and values attached to taewa exchange amongst Māori growers. These four authors revealed the opportunities and challenges associated with taewa cultivation, significant among which is the question of scale of enterprise.

Taewa are largely grown in cultivated gardens in small land plots of less than two hectares in size with minimal investment. The scale of operation is associated with a scarcity of capital, lack of market access, low quantities of marketable surplus, and restricted market knowledge. These in turn contribute to the absence of scale economies, a lack of bargaining power, poor infrastructure and communication. With Māori the largest producers of taewa, the market itself is small and there are few resources available to grow it. Further, small, undercapitalised garden plots are susceptible to disease and nutrient depletion (Puketapu 2011), with fertilisers, herbicides and pesticides beyond the means of farmers. Traditional knowledges (Mātauranga Māori) of more organic practices offer an alternative, but must be recultivated (Roskrug 2012). The literature confirms that taewa are cultivated for cultural, subsistence, and commercial reasons, cultivation and exchange are culturally symbolic and bound up with construction of identity, and production draws on Mātauranga Māori (Māori knowledge). Taewa co-constitute the Māori world.

My own research (FitzHerbert 2009) extended Lambert's (2008) proposition that small-scale taewa growers draw on diverse market and non-market institutions, including state support, diverse economy relations, and Māori growers' organisations to gather knowledge and resources and foster exchange (Table 3.5). Māori growers draw on Māori land and unpaid labour to establish gardens. Capital requirements are largely drawn from the State, tools and other implements are generally gifted by others, and knowledge is drawn from their own Mātauranga Māori and from Tāhuri Whenua initiated science experiments (see Kerckhoffs 2008; Lambert 2008; Kerckhoffs & Smith 2010). Tāhuri Whenua is a central node in the expansion of taewa, both as a space to generate knowledge and a place where Māori have particular buy-in. It is a Māori organisation led by Māori for Māori, although it invites other Pākehā researchers to undertake research.

Taewa increasingly surface in wider New Zealand foodscapes and extend beyond Māori economies. They appear in popular media (i.e. television, cook books, and national and regional newspapers) and at restaurants, supermarkets, farmers markets, niche grocery stores, and fruit and vegetable grocers. There is an emergent demand for taewa as a niche product in the market (Lambert 2008; Barr 2012; NZIER 2003a), which (sometimes) articulates Māori taewa circulations with capitalist circuits of exchange. However, these circulations are not always from Māori economy; those from Māori economy face a number of challenges. Māori horticulturalists are geographically diverse and separated: the appearance of taewa in capitalist nodes is adhoc and opportunistic, and connections fragmented and distant. Many horticulturalists produce small seasonal quantities of vegetables making marketisation unsustainable in terms of costs associated with market entry and promotion and limited supply. Whilst there are numerous traditional and emergent institutionalised methods of exchange for taewa among Māori, not so many articulate taewa into other economies (FitzHerbert 2009). Non-Māori taewa producers are increasingly supplying taewa for commercial exchange, and the

taewa available in food stores is commonly from outside the Māori economy. Similarly, hybrid potatoes such as the Purple Heart<sup>15</sup> have entered the New Zealand marketplace and sold in supermarkets. Purple taewa such as the tutaekuri, which used to be exotic, are now in competition with mass-produced purple potatoes. Taewa’s distinctiveness and ‘qualities’ (Callon *et al.* 2002) are partially co-opted by other potatoes and non-Māori growers and market actors. The plates on which taewa are placed and the context in which they are eaten in New Zealand contrast sharply with how they come to be produced and eaten on the marae. Whilst the market connection between Māori gardens and Pākehā plates is not impossible, they are rare.

**Table 3.5 Taewa grower motivations and exchange institutions (adapted from FitzHerbert 2009).**

Motivations	Non-formal exchange institutions	Formal market exchange institutions
<ul style="list-style-type: none"> <li>- Income</li> <li>- Create employment opportunities for Māori</li> <li>- Feed whānau</li> <li>- Utilise Māori land</li> <li>- Supply Kai to marae</li> <li>- Inspire other Māori</li> <li>- Keep taewa alive</li> <li>- Serve traditional kai to visitors.</li> <li>- Teach young people about gardening</li> <li>- Develop a community garden.</li> <li>- Be less dependent on social welfare payments</li> </ul>	<ul style="list-style-type: none"> <li>- Koha (offering)</li> <li>- Gift</li> <li>-Marae</li> <li>- Whānau</li> <li>- Hapū (sub-tribe)</li> <li>- Community store (based on trade, money not necessary)</li> <li>- Garden gate</li> <li>- Community garden</li> </ul>	<ul style="list-style-type: none"> <li>- Community store</li> <li>- Farmers’ markets</li> <li>- Farm gate</li> <li>- Supermarket (GAP accredited)</li> <li>- Supermarket</li> <li>- Trade-me (internet based)</li> <li>- Organic food stores (certified organic)</li> </ul>

### 3.2.3. Taewa: Māori worlds

There *is* a taewa economy. Taewa are still taonga and the Māori world of taewa is culturally rich. Taewa are also placed into diverse and emergent circuits of exchange involving multiple actors, practices, projects and values. They have considerable exchange value in Māori economy, and have emergent exchange value in market economies. The circuits through which they move are neither distinctively Māori or market, formal or impromptu, or organised or opportunistic.

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<sup>15</sup> Purple Heart is a ‘gourmet’ potato bred by Plant and Food Research and became commercialised in 2010. The potato has been purchased by a commercial seed producer and at least four commercial potato grower enterprises. Growers have invested in branding and packaging. These are sold as exotic potatoes to both restaurants and supermarkets (Radio NZ, 2010). Similar purple potatoes (i.e. Purple Majesty and purple Passion) and potato products (i.e. fries, crisps and ready-made mashed potato) have been launched in other countries (e.g. Scotland, England and the USA).

Taewa have emerged in broader New Zealand foodscapes, increasing their celebrity and enlivening their performance in Māori economies, and giving impetus to further capitalist exchange and incorporation into the Taniwha economy. They remain a matter of concern largely of Māori growers and researchers, who set the priorities of taewa circulation, the sites of production and consumption, and knowledge of taewa economy.

### **3.3. Entrepreneurship and innovation: Engaging with the awakening Taniwha economy.**

*Innovation always has been the critical driver behind economic growth and expansion. Māori are living proof of innovative, creative explorers and entrepreneurs who used knowledge to expand and grow ... What we need to do is make sure that the Taniwha economy is nourished with innovation, science, ideas. This is the fuel that will power the Taniwha economy to its full potential (Minister of Māori Affairs 2012a).*

Discourses of entrepreneurship and innovation dominate economic development agendas across much of the western world. They have also been promoted by state agencies and multiple governments as central to Māori economic development since the 1990s and thus a cornerstone of post-Treaty settlement. Māori too have drawn heavily on entrepreneurship and innovation in their efforts to awaken the Taniwha economy. This section presents three accounts of entrepreneurship and innovation: as understood in the academic literature; in Māori economy; and as a research project.

#### **3.3.1. Entrepreneurship and innovation: as documented in the social sciences**

A broad literature exists on entrepreneurship and innovation and they are often discussed in the same vein (i.e. an entrepreneur is an innovator, and innovators are entrepreneurs). According to economist Joseph Schumpeter, somebody or some group expresses entrepreneurship when they create new value by doing new things or elaborating in new ways on established practices (1947). He claimed *technical change* (or innovation) as central to economic change and capitalist growth, as it leads to realising additional value and/or creating new market objects and staving off capitalist contradictions and declining profit from competition. His ideas have gained considerable traction in contemporary discourses of economic development. Management theorist, Peter Drucker (1985) defines entrepreneurship as a risky behaviour, for example somebody who is willing to jeopardise their current security to engage in uncertain endeavours which may (or may not) result in a positive economic outcome. To Drucker, entrepreneurship and innovation are intrinsically linked. The concepts are predominantly read in capitalist economic terms and situated in discourses of wealth creation. Entrepreneurs and innovators are championed in economic and political discourse as phoenix-like economic heroes and objects of others' aspiration (i.e. Cannon 1991; Burns 2001; Jones & Spicer 2005) – they have the traits of *homo-economicus 2.0* (Callon 1998b, 2008). Entrepreneurship is understood as a behavioural

trait which certain people possess, but for business academics, one that can be learned. They take risks, seize opportunities and generate wealth. Similarly innovation (and innovators) create new opportunities, the discourse typically privileges technology as a central generator of innovation. OECD researchers Ahmed and Hoffman (2007) claim there are three dimensions of entrepreneurial capability: social capital (e.g. relationships and networks); human capital (e.g. knowledge, skills, cognition and mindset); and cultural capital (i.e. identity, practices and norms). The definitions and characteristics of entrepreneurship and innovation are debated throughout the management and social science literatures.

Ideas of entrepreneurship and innovation (although contested) have had a strong hold on projects and notions of economic development since the 1990s. Numerous actors (i.e. the state, experts and business leaders) mobilise this agenda believing entrepreneurship and innovation will transform industrial societies and generate post-industrial economic growth. Universities have established entrepreneurship and innovation departments and numerous academic journals are dedicated to the subject. Likewise various governments have a ministerial department with innovation in its name. The allure of entrepreneurship is that it supposedly can be learned, and thus there is value to be created by theorising, teaching and otherwise marketing it. Entrepreneurship and innovation seem also to fit the various neoliberal agendas of different governments and economic think tanks. Economic activity is the domain of the individual and/or company, actors who are self-oriented, profit-maximising, risk takers. As concepts they allure governments as ways to stimulate economy, promote individual responsibility and generate continual economic growth. The discourses situate an entrepreneur/innovator as a self-motivated economic actor who can generate economic opportunities from their own situatedness. As such, an actor maps on to the different neoliberal agendas of governments. Governments have championed entrepreneurship and innovation as essential activities to awaken stagnating or slow growing national economies and increase the competitiveness of nation industries in the international market-place. Armstrong (2005) claims as the state has retreated from Keynesian political economy their new agenda situates entrepreneurship and innovation as necessary and expected of its subjects. Various States have mobilised these ideas in discourses of nation-building and increasing GDP, and invested in projects which seek to foster both.

The entrepreneurship and innovation research agenda has broadened to consider an indigenous (Anderson 2002; Peredo *et al.* 2004; Stiles & Galbraith 2004; Lindsay 2005; Henry 2007, Bunten 2010), social (e.g. Dees 1998; Martin & Osberg 2007; Bornstein 2007), informal (e.g. Aidis *et al.* 2006; Ram *et al.* 2007; Williams 2006, 2008, 2009a,b) and criminal (e.g. Frith & McElwee 2007; Smith 2009; Bacur *et al.* 2012) entrepreneur. Each, to varying extents, fracture dominant conceptions of what is entrepreneurship and innovation in terms of being more-than-capitalist, but is still situated as a behaviour. However, critical scholars in this field suggest that these discourses have failed to escape their economic and neoliberal rationalities, technologies and political projects (Austin *et al.* 2006; Peredo & McLean 2006; Hindle & Lansdowne 2005; Lindsay 2005; Peredo & Anderson 2006; Bargh 2014). They tend to enact capitalist performance

(Callon 2007a), which is deeply troubling for those seeking indigenous post-capitalist formations (Bargh & Otter 2009). Williams and Martinez (2014) suggest entrepreneurship can be hindered by both too little and too much state intervention, and that despite state intervention people's behaviour cannot be determined by specific policy and/or investment. The important point is that articulation of informal and/or indigenous entrepreneurship into formal economies is not a given.

### **3.3.2. Māori entrepreneurship and innovation**

Māori entrepreneurship and innovation draws on understandings from broader indigenous entrepreneurship and innovation scholarship (see, for example Hindle & Lansdowne 2005; Lindsay 2005; Peredo & Anderson 2006). Hindle and Lansdowne define indigenous entrepreneurs as 'the creation, management and development of new venture by indigenous people for the benefit of indigenous people' (2005: 132). Indigenous readings of these concepts are contested and debated in terms of whether they appropriately capture the aspirations and practices of indigenous endeavours. Peredo and Anderson (2006) argue there is no single definition of indigenous entrepreneurship and innovation. Instead they tend to be empirically situated: activity occurs within indigenous territory; activity is expressed through different aspirations; and, it is not often about an individual. Anderson *et al.* (2006) locate indigenous entrepreneurship between social and economic entrepreneurship, informed by notions of self-determination, community, and indigeneity and by a shared experience of colonialism and its dispossessions. They promote a distinctive set of entrepreneurial practices. While the particular forms and concepts taken by indigenous entrepreneurship and innovation are contested, they are seen as representing a departure from the dominant discourse of the innovator and/or entrepreneur as a self-interested profit maximising individual.

How Māori think and practice entrepreneurship and innovation varies across authors' accounts. Authors agree commercial aspirations are embedded within Māori aspirations for self-determination (Zapalska *et al.* 2003; Keelan & Woods 2006; O'Sullivan & Dana 2008; Keelan 2010). A number of authors note that although Māori entrepreneurs may seek to create profitable enterprises, they differ from western notions of innovation and entrepreneurship in that they view profit and economic well-being as a means to serve Māori cultural, social, environmental and spiritual aspirations (Henry 2007; Overall *et al.* 2010; Best & Love 2011; Bargh 2012). In terms of how Māori work these ideas there are varying accounts. Coleman *et al.* (2005) claim that Māori have demonstrated adaption and the adoption of new technology throughout Aotearoa New Zealand history – they have always been entrepreneurs and innovators. Tapsell and Woods (2008a,b, 2010) claim Māori entrepreneurship and innovation occurs when opportunity seeking Māori youth meet with Māori elders steeped in traditional values and practices to collaboratively develop a new product. Others claim that economic growth and exploitation of recovered Māori resources requires the adoption of new productive techniques and changes in behaviours, minds and routines (Clydesdale 2007), which should be facilitated by the State (Mika 2013). Authors have named different forms of Māori

entrepreneurship, for example the Māori Mauipreneur (Keelan & Woods 2006:17; see also Keelan 2010) and kaupapa Māori entrepreneurship (Henry 2007).

These accounts are not beyond critical scrutiny. Common to all is the claim that Māori entrepreneurship and innovation is not reducible to capitalist aspirations and practices, even if certain accounts advocate capitalism in the first instance as a technology for later pursuing Māori socio-cultural and political projects (see O'Regan & Mahuika 1993; Mataira 2000; Reihana *et al.* 2007; Spiller *et al.* 2011a; Spiller *et al.* 2011b; Barr & Reid 2014). The potential to use capitalism to produce a post-capitalism is widely questioned (see for example, Gibson-Graham 2006), and denies both the performative technologies of its subject formation and the wider institutions with which a post-capitalist Māori economy would have to engage. Perhaps more problematically, these accounts rely to a greater or lesser extent on essentialist and exceptionalist metaphors, a cultural essentialism, and an occlusion of power. They are, quite rightly for the post-colonial moment, utopian, but it is not always clear whether this utopianism is material or naïve.

For Bargh (2012) and others, however, any path towards an alternative that is situated in relation to capitalism must address conceptions of economic transformation and thus engage with how Māori *might* think and practice entrepreneurship and innovation otherwise. She imagines a Māori entrepreneurship that does not have short term profits in mind, but rather engages with a conception of resources as living entities and society as having aspirations stretching into the long term. Lambert (2007, 2008, 2012) takes a more materialist direction. He outlines an established discourse of innovation and commercialisation in contemporary Māori economic development that draws on western science and technology. He demonstrates, however, that the implications of the 'innovate or die' mentality which consumes much of the economic discourse and promotes urgency and short-termism is less prominent in a setting where land is held as Māori land and deeds of trust bind decision makers to longer-term considerations. He suggests that the lack of urgency can mean that innovation or entrepreneurship in Māori terms resides as much in Māori communities and 'non-certified' experts (2012: 251). It is important, however, where any 'new' technology comes from, who introduces it, and how it is mediated (Lambert 2007, 2008). For Māori innovation and entrepreneurship to be different, Māori must be in control and Māori practices, motivations and aspirations at the heart of the innovative process and the commercialisation agenda.

### **3.3.3. Innovation and entrepreneurship in Māori economy**

Successive New Zealand governments have promoted entrepreneurship and innovation as central to their economic growth agendas and essential to global competitiveness (Sullivan & Margaritis 2000). Indeed, since 2003 Statistics New Zealand has biannually measured innovation in New Zealand, creating an object for management. The Treasury (2005b: 30) argues that along with capital, skills and appropriate institutions they are the universal drivers of development and 'the same across all people and countries'. Innovation, it suggests, can emerge from the creation of new products and services or organisational arrangements, and require managerial

and entrepreneurial skills ('the ability to exercise judgement, identify market opportunities and respond to market shocks ... [encompassing] ... risk-taking, innovation, resource re-allocation, arbitrage and coordination') (Treasury 2005b: 11). Entrepreneurship and innovation are thus co-dependent and essential for economic growth. Governments can play a role by promoting entrepreneurialism and innovation and establishing appropriate institutions, and ought to be prepared to invest in building them.

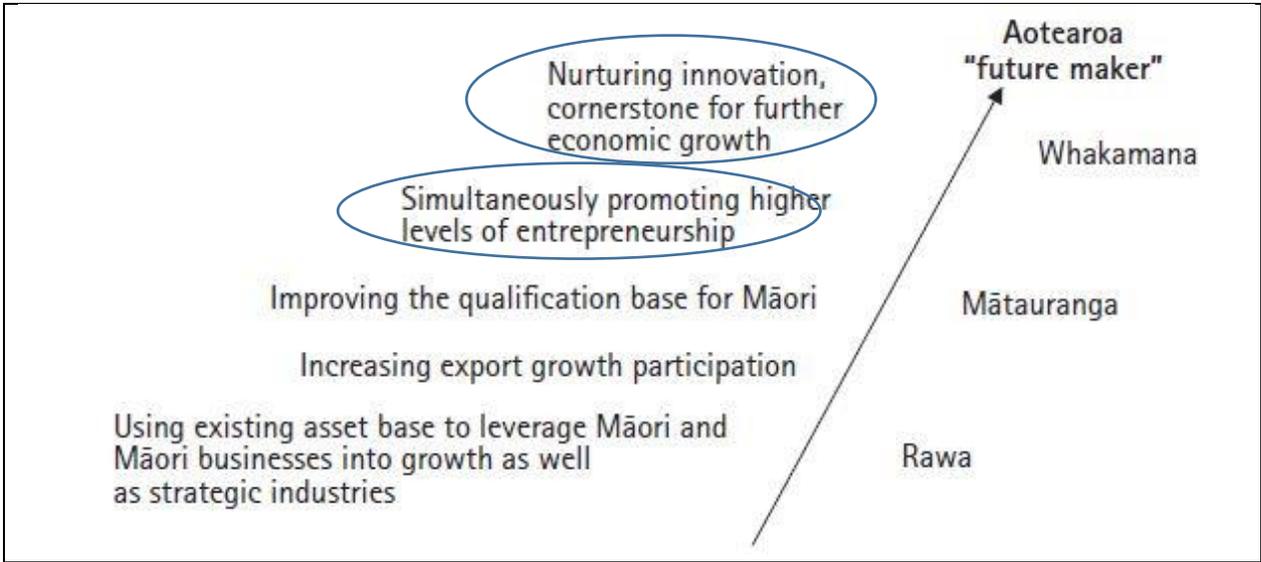
Māori entrepreneurship and innovation is a key theme of the Māori economic development project (e.g. NZIER 2003b; TPK 2007, 2010, 2014). BERL (2011b) argue there needs to be a 'genuine' engagement between Māori enterprises and the science and innovation sector in order to improve productivity and profitability. At TPK's Hui Ohanga 1999 entrepreneurship was seen to be *the* means to boost Māori economy (TPK 1999). From early on, the drive was to ensure innovation became 'a pervasive feature of all Māori institutions' (NZIER 2003b). In 2005, TPK sponsored Unitec's Innovation Research Centre to undertake research as part of the Global Entrepreneurship Monitor (established by Babson College, USA and London Business School, UK) measuring entrepreneurship amongst Māori and Pākehā (Frederick & Chittock 2005). The study suggested Māori ranked as the most entrepreneurial in terms of 'early-stage entrepreneurial activity' out of the thirty-five countries sampled, had the highest rates of informal investment, and were amongst the *least fearful* of failure in starting a new business (although other reports claim Māori are risk averse (NZIER 2005a)). The finding that Māori entrepreneurs tended to be driven by aspirations of independence rather than wealth creation was perhaps more interesting and lent support to notions of indigenous entrepreneurialism. While much of this comparative work invites scepticism, the results did circulate through policy circuits as did the suggestion from interviews with Māori experts that government programmes were insufficient to support new businesses and university programmes did not adequately prepare would-be entrepreneurs.

These findings, among other research, and shifting ideologies and theories of economic development more generally, were brought to the Māori economic development project (TPK 2007). They informed a project to grow the 'next generation of Māori entrepreneurs' (Treasury 2005b) by encouraging the indigenisation of entrepreneurship from a young age within whānau, the formal education system, and entrepreneurship coaching, mentoring and networking. The project aimed to celebrate *successful* Māori entrepreneurs and to address cultural distrust of commercialisation. The NZIER proposed the 'development of the Māori entrepreneur' to encourage commercial growth and programmes to transform Māori employees into entrepreneurs by encouraging the state to invest in the enhancement of management and business skills of Māori (NZIER 2005a, 2005c). These ideas have been mobilised in numerous Māori development projects, from He Kai Kei Aku Ringa to the Māori Potential Approach (TPK

2008), and Whānau Ora<sup>16</sup> (Whānau Ora Taskforce 2010). Each promotes entrepreneurship and innovation for Māori wealth creation and Māori self-determination. TPK claims it is essential Māori move to the innovation economy, by embracing education, research and development, fostering the creation of knowledge and innovation, and adopting technological advances in sectors in which Māori have a share (TPK 2007: 12). The challenge, they suggest, is to ensure that ideas of entrepreneurship and innovation are embedded in discussions about Māori development (TPK 2010: 36) (see figure 3.2). As the Minister of Māori Affairs later observed (2012a):

...the Taniwha economy is no longer asleep, it is wide awake and hungry for business. What we need to do is make sure the Taniwha economy is nourished with innovation, science and ideas. This is the fuel that will power the Taniwha economy to its full potential (Minister of Māori Affairs 2012a)

**Figure 3.2 Enabling Māori economic growth through entrepreneurship and innovation (sourced from TPK 2007: 34)**



**3.4.4. Creating Māori entrepreneurs and generating Māori innovation**

The message of these programmes, and the assumption underlying them, is that entrepreneurship can (and should) be learned. The Māori economy is argued to lack engagement with research, science and technology (RST). Māori participation in RST is restricted: there are only a small number of Māori scientists, and few Māori engage in post-graduate study (TPK 2010). Awakening the Taniwha economy has stimulated a research agenda, which is at least informed by Māori and a decolonising agenda, even if it falls short of truly collaborative science (Coombes 2007; see also Briggs & Sharp 2004; Christie 2006). The Ministry

<sup>16</sup> Whānau Ora is a Māori social welfare project. It seeks to resource Māori families with social welfare assistance in order to support Māori self-determination. A large part of this project is about encourage and supporting Māori families to establish commercial ‘whānau enterprises’.

of Research Science and Technology (MoRST) launched Vision Mātauranga (VM) in 2007 '... to unlock the innovation potential of Māori knowledge, resources and people to assist New Zealanders to create a better future ... [through] ... innovation, opportunity and the creation of knowledge' (MoRST 2007: 8). VM sought to advance technological capacity amongst Māori. VM has four themes:

*Indigenous innovation: Contributing to economic growth through distinctive research and development.*

*Taiao: Environmental sustainability through iwi and hapū (sub-tribe) relationships with land and sea.*

*Hauora/Oranga: Improving health and social wellbeing.*

*Mātauranga: Exploring Indigenous knowledge and research, science and technology.*

The Indigenous Innovation theme, under which my doctoral research was funded, links Māori economy, particularly commercial and value-adding opportunities for tangible products (e.g. seafood, dairy, forestry, art) and traditional knowledge (e.g. intellectual and cultural property), to the national agenda of profitability, competitiveness and growth. It:

...concerns the development of distinctive products, processes, systems and services from Māori knowledge, resources and people. Of particular interest are products that may be distinctive in the international marketplace (MoRST 2007:4).

In 2006 the Foundation for Research Science and Technology (FoRST) launched the Te Tipu Pūtaiao Fellowship scheme (TPP) under the auspices of MoRST's VM project. The scheme welcomed applications from Māori and non-Māori individuals and groups, as long as they had Māori endorsement, a Māori mentor and were able to demonstrate how their proposed research would contribute to *unlocking the innovation potential of Māori knowledge, resources and people* under one particular VM theme (FoRST 2006, 2010). The selection panel was made up of Māori scientists and had three schemes: post-graduate research; post-doctoral research; and, a 'bridge to employment' programme. Between 2007 and 2012 twenty to thirty fellowships were awarded each year, with four awarded to projects investigating taewa economy. Aleise Puketapu, Tāhuri Whenua member and Māori scientist, who features in Chapters 5 and 7, received a postgraduate scholarship under Mātauranga (\$18,500) and received a 'Bridge to employment' fellowship (\$36,250). I received a postgraduate scholarship under indigenous innovation (\$107,500). Similarly, Dr Simon Lambert, Tāhuri Whenua member and Māori scientist, received a post-doctoral fellowship under the same category (\$264,000). The TPP programme ended in 2011 after having injected approximately \$400,000 of research investment into the taewa economy.

MBIE replaced TPP with two new VM investment channels in 2013. Informed by He Kai Kei Aku Ringa, it seeks to foster a 'productive, innovation and export-orientated Māori Economy' (Minister of Science and Innovation 2013, 2014). There are two initiatives: Te Punaha Hiringa, Māori Innovation Fund (MIF); and Te Punaha Hihiko, Vision Mātauranga Capability Fund

(VMCF). The MIF invests approximately \$2million/year to support Māori collectives ‘realise the economic potential of their assets’, but requires Māori to co-invest financially. The Fund is predominantly directed at the Māori primary sector. There are two investment schemes, the ‘Commercial Advisors Scheme’ (CAS) and ‘Governance and Management Development Scheme’ (GMDS). CAS recipients are required to utilise a MBIE approved international and domestic management consultancies.<sup>17</sup> Likewise, GMDS recipients must select MBIE approved commercialisation consultancies.<sup>18</sup> VMCF has invested approximately \$1.9million in projects which fall under one or other of the VM themes. It is directed primarily at the Māori primary sector. Taewa economy research has benefited directly, with Massey University and Tāhuri Whenua receiving funding.

MBIE (2014b) justify this funding by claiming that Māori increasingly utilise research and development, are early adopters of innovation, and use it to generate productivity gains. Student researchers are no longer in the VM equation. Instead research and expertise enacting the Taniwha economy has been moved away from its concentration within universities and CRIs, and into the domain of economic experts, business consultancies and business mentors, and business incubators (*entrepreneurial mentors*).

### **3.3.5. Entrepreneurialism and innovation: engaging taewa in the Taniwha economy**

State-Māori projects have been launched to articulate diverse taewa economies to capitalist investment and distribution networks and consumer markets, in part via the Taniwha economy. The state has invested in mediators (in this instance agents of entrepreneurialism and innovation) to translate meanings, values and investment from diverse to capitalist economies and to negotiate complex exchanges of cultural and financial capital. ‘Unlocking the innovation potential of Māori knowledge, resources and people’ is a key project of the state sponsored Māori economic development agenda. Māori entrepreneurialism and innovation is celebrated by promoting champions of the Taniwha economy within government documents, dedicated events (i.e. Atamira: Māori in the City 2009<sup>19</sup>), and business awards (Aotearoa New Zealand Business Awards, He Kai Kei Aku Ringa for Māori Excellence in Exporting, Te Hiringa Māori Awards and Aotearoa Business Awards). These awards recognise that Māori enterprise is different, if not generally more-than-capitalist. Pākehā can engage in questions of Māori entrepreneurship and innovation, but at the invitation of, and under terms set by, Māori.

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<sup>17</sup> For example, AgFirst; BDO NZ Ltd; Catalyst Ltd; Crowe Horwath; Deloitte; Ernst Young; Lovell & Associates Ltd; Navigator Limited; PricewaterhouseCoopers; Stellaris; Te Tumu Paeroa; The Icehouse Ltd; Tokorangi; and Tuia Innovation.

<sup>18</sup> For example, Export Academy of New Zealand Ltd, Indigenous Development Group Ltd, Landcare Research New Zealand Ltd; Navigator Ltd; Stellaris Ltd; and The Icehouse Ltd.

<sup>19</sup> Atamira: Māori in the City 2009, hosted in Auckland celebrated and showcased Māori innovation and creativity. The event brought-together leading Māori business people, scientists, entrepreneurs and researchers. The event was open to the public (see, te Heuheu 2009).

Entrepreneurialism and innovation looks different in capitalist, state and diverse economies. The following section points to the challenge of capturing the diversity in Māori economy: economic actors, practices and relationships. Taewa exchange is constituted by Māori people and organisations through diverse market actors and practices, and cultural aspirations that mediate the opportunities and challenges for exchanging Māori vegetables. Collective economic experimentation is defining and essential but difficult. It must be imagined, conceived and worked at, which demands a particular, situated form of entrepreneurialism, which is not always present and takes different forms to that of the dominant understanding of entrepreneurship. It must articulate diverse economies with capitalist economies, and the economy of state-Māori politics.

### **3.4. Decolonising economy: Diverse Māori economy.**

An emergent diverse Māori economy literature exists which demonstrates how Māori *think* and *do* Māori economy differently. While always struggling more or less successfully with the perils of essentialism, the shared project is to decolonise economy - to free Māori assets and minds from being 'servants' of the Pākehā capitalist economy (Jackson 2007: 172). Jackson claims that the capitalocentric imaginary precludes any other reality and has become 'a seductive story that influences and changes our (Māori) thinking about who we are and what we might become' (Jackson 2007: 172). The diverse Māori economy project seeks to revitalise and find power in stories of alternative Māori doings, encouraging Māori to do economy on their terms, in both Māori and capitalist worlds (see, for example McCormack 2007, 2010; Lambert 2008, 2012; Bargh 2011, 2012).

Maria Bargh (2011; see also 2012) critiques indigenous entrepreneurialism for largely adding indigenous values to capitalist forms and structures. Entrepreneurialism becomes reduced to doing and *thinking* capitalist market exchange and maximising profit, rather than capturing how indigenous entrepreneurs think differently to *homo-economicus 2.0*. She argues, by focusing on being economic rather than becoming, indigenous economic practices and values are co-opted into capitalism. To fracture capitalocentric imaginaries and understand becoming, Bargh uses Gibson-Graham's 'ethical coordinates' of community economies to locate the economic activities of a Māori geothermal company on a set of Māori economy coordinates that she suggests reveal the nuances of Māori economic activity and thinking. The enterprise is revealed as more-than-capitalist and deeply situated by, and enactive of, Māori worlds. Bargh observes that the gift-economy (i.e. koha, goodwill, free labour, donations) is a significant part of Māori economy, yet is not measured by economists. The point is less one of an accounting error and more that gifting is constitutive of the formation and activity of Māori enterprises, even a form of entrepreneurialism and innovation (Bargh 2014). Bargh (2011) argues that a diverse economies framework provides for more nuanced understandings and measures of Māori economy that show it to be far more than the Taniwha economy, and that in fact the Taniwha economy is far more complex and broader than portrayed by BERL's calculations. She demonstrates how Māori enterprises mobilise mixed forms of business models (Māori and non-

Māori, formal and informal, capitalist and non-capitalist). Even where there exists a formal structure to produce both financial returns, the businesses seek to foster cultural and economic wealth.

Māori economies are open to non-Māori scrutiny and support. Underhill-Sem and Lewis (2008) draw on post-structural and post-development trajectories to work with Māori to enact diverse Māori economy and investigate how, in doing so, non-Māori researchers can add insight and at the same time become different kinds of research subjects. They mobilise Gibson-Graham's practice of asset-mapping to reveal economic assets. The challenge, they argue, is to sustain excellence in research as a platform for legitimate voice and to attend carefully to the politics of place and knowledge. Similarly, FitzHerbert and Lewis (2010) draw on post-development ideas to make sense and support the efforts of He Iwi Kotahi Tatou Trust, a Māori community development organisation, to rethink and take-back development for the interests of Māori in Northland's Moerewa. Rather than understand economic development in purely capitalist terms, the work of the Trust foregrounds its aspirations to empower Māori to do things on their own terms and enact their own economic futures. Its projects include leveraging state welfare programmes and state legal commitments to, and investment in, community development to generate value on Māori terms (see also Davis and Davis 2011). My own MSc research explored the diverse economy of peruperu among Māori vegetable growers in an effort to challenge notions of economic development and what it means to *be* and *do* economy for Māori potato growers.

To step into these Māori research spaces, the researcher(s) is required to abandon certain institutions and forms of practice and critique to garner Māori support for the work and make it appropriate to a decolonising politics. Outsider research requires decolonising economic methodologies (see Smith 1999) and a responsiveness to a decolonising politics of knowledge production and representation. This requires economic geographers to fracture dominant economic categories and measurements and develop new intellectual tools, and to co-imagine, co-enact and co-narrate with Māori other possible Māori economic worlds. A commitment to become involved as an actor and to be guided by Māori in the hope of enlivening a more-than-capitalist Māori economy is a crucial starting point.

Diverse Māori economy projects reveal more-than-capitalist values and practices in Māori economy. These offer a counter-narrative to the economic imaginaries which give form to 'the Taniwha economy'. Accounts of diverse Māori economy and the project to think economy differently fracture expert framings, definitions, and categories of economy and notions of what it ought to be. Critical Māori scholars have begun to explore what 'economy' - in particular a Māori economy - 'is' and should be, and to insist upon decolonising imaginaries of economy to generate a space in which Māori can think and do economy on Māori terms. Decolonising economy requires going beyond adding-in Māori non-capitalist activity to capitalist economy to understanding how Māori (and other indigenous) *become* to *do* and *think* their economic

activity (and economic development). In this way ‘the economy’ is challengeable and open to reconfiguration, something already in-the-making in certain Māori enterprises.

Alternative economic accounts of Māori economy offer Māori an economy of hope and hope for Māori economy. Whilst Māori may still draw on state investment, they are increasingly mobilising projects which add-value to Māori ways of doing and knowing economy in order to negotiate the articulation of Māori economy with capitalist processes and to generate and return surplus to Māori. Through various forms of action research where the terms are set by Māori, Pākehā have contributed to enacting Māori economy in this way. The rise of the Taniwha economy and the increasing, and increasingly performative, measurement and narration of it as capitalist demands new research sensibilities that do not simply fold (or add-in) Māori ways of thinking and doing resource utilisation and exchange to capitalism. Critique, however, must eschew easy anti-capitalist and/or anti-neoliberal agendas and recognise a Māori political project that might seek to leverage political and economic assets defined in these terms, and seek to perform Māori resources into capitalist worlds for Māori advantage. The decolonising project is prior, yet Māori recognise and perform economy as more than capitalist, emergent and open to reframing across the borders of established economic categories.

### **3.5. The Taniwha and the taewa**

Taewa is an object of economy making and a subject of Māori development. This chapter situates taewa as an object in historical and contemporary political projects and experimentation in Māori economy. Prominent among this context is the awakening of the capitalist Taniwha economy in the post-Treaty context of mobilising significant Māori assets in relation to a national development project centred on innovation and profitability for global competitive advantage. The Taniwha economy is nurtured by this project and the economists who make it calculable and projectable and governments who give it form through investment and policy, and is projected to play an increasingly significant role within it. This positioning of Māori economy empowers Māori and gives Māori economy an enormous boost. However, Māori economy is more than this particular capitalist imaginary. Māori business entities have a responsibility to whakapapa and manawhenua (territorial rights), and to generating returns for their people: past, present and future generations and stewarding the environment. These responsibilities fall heavily on tribal authorities and asset holding companies who manage this economy.

The taewa economy is part of both taewa economy and a reinvigorated cultural economy shaped by cultural practices and values and aspirations for economic self-determination. Taewa relate old Māori worlds to present Māori and emergent Māori cultural economy. The cases of Tāhuri Whenua, Aunty’s Garden and the potato psyllid to be discussed in Chapters 5 to 7 are each part of this economy and shape possibilities for taewa circulation. In narrating the taewa and Taniwha economies, this chapter has outlined four sets of relations that give meaning and form to Māori economy: values, politics, investment and ideas. These relations play out

through indigenous enterprise, state engagement in the Taniwha economy, ‘thinking and doing’ alternative Māori economy, discourses of innovation, and the political economy of research on taewa. The taewa economy is embedded in and shapes each of these relational trajectories.

The Taniwha economy is a political project (experiment) attempting to articulate Māori resources with capitalist circulations (economies). The State, Māori and experts each play a role. What is economy and what it is to be economic is framed by capitalist process and economic imaginaries. Calculating and projecting the Taniwha economy has created new value with numerous actors trying to capture potential revenue streams. Māori (at least some) themselves frame and advance the Māori economic project. The Taniwha economy is a Māori economic development project - that is, ‘unlocking assets’ and ‘taking Māori to market’ – with a politics of what economy is, should be and who frames it. Making Māori economy calculable is a negotiated practice. Whilst it appears capitalist processes are co-opting Māori assets, there is an articulation enacting a ‘productive (but political) tension’. Māori assets are being normalised, calculated and speculated upon as assets for capitalisation, but Māori themselves are now in charge, or at least some Māori are largely in control. Māori investors and mediators must choose how they wish to articulate capitalist and diverse economies, and must be accountable to a Māori politics in this regard as well as to financial accounts. Taewa are embedded within Taniwha economy discourse in terms of mobilising land resources, people, knowledge, entrepreneurship, Māori brands and markets. It demonstrates the spatiality of the Crown, experts and economic experimentation in Māori political and taewa economies. Indeed, Māori political economies and the taewa economy is a space of experimentation. Tāhuri Whenua and Aunty’s Garden perform this in particular ways (i.e. land, investment, research and market-making), and the psyllid poses a biological hurdle.

Historical and contemporary accounts of the taewa matter and have a politics. It demonstrates what Māori have already *done*, thus revealing the historical circulations of taewa. Taewa have always been significant to Māori. Politically it shows the politics of knowledge representation and the politics of Māori objects. Who is telling these accounts? Who is hearing them? Who owns them? Who profits from them? These all have implications on the taewa and Māori history and Māori and Pākehā worlds today. There is an emergent contemporary taewa economy, situated in Māori economy, which has points of articulation with capitalist economy, but the exchange practices and values do not fall neatly into capitalist imaginaries of circulation and exchange. Pākehā appear to be capitalising on the commercial opportunities of taewa.

The Crown mobilises entrepreneurship and innovation as unlocking devices. They are key state matters of investment. Similar to the taniwha project, these discourses are framed in capitalist terms. There is a particular tension between how it is mobilised by the state and understood and enacted by Māori. There has been a shift in who is eligible to conduct research on Māori matters of concern from being exclusive to Māori applicants to anybody. Certain Māori scholarships are no longer just the domain of Māori. Although the selection panel are predominantly Māori and as such Māori (to an extent) decide what and who gets investment.

Research may no longer be solely kaupapa Māori but is tested with Māori outcomes and futures in mind. Furthermore, state investment in research has all but disappeared as they now (as per the investment streams identified in section 3.2) focus on ‘partnering’ and ‘mentoring’ existing Māori businesses, trusts and start-ups into commercialisation. Research is largely replaced by business mentors and business incubators and the project is shaped by experts of capitalist economy. As such investment has shifted from *knowing* to *doing* commercialisation and entrepreneurship. Whereby the *doing* is largely framed and given form by the state and ‘business advisors and experts’. The politics of this shift is that knowing and doing economy differently is further obscured in discourses of Māori economic development. In both cases Pākehā are encouraged to engage with the Taniwha economy. The question is whether it is for and with Māori or capitalism.

Alternative economic imaginaries demonstrate a counter-initiative to how economy is read and thought. These decentralise dominant capitalist categories of economy which largely inform (and perform) the Taniwha economy project. They inject a broader (enriched) account of how Māori *do* and *think* economy. Investigations of diverse Māori economies reveal cultural values and practices associated with Māori ways of doing economy, offer a counter-narrative to the economic imaginaries which influence the Taniwha economy, and provide stories of how Māori enact and think economy. Māori still draw on state investment, but are increasingly mobilising projects which add-value to Māori ways of doing and knowing economy and articulate with capitalist processes in order to generate and return surplus to Māori. As Māori seek to commercialise particular objects, ‘commercialisation’ itself needs to be *detached from state-economist economic imaginaries* and understood as *how Māori think commercialisation*, which is perhaps *something more diverse in Māori economy*. It is this particular trajectory of doing and thinking economy differently which I (and Māori) have situated my research as a Pākehā. There is a space for Pākehā to engage meaningfully with questions and objects of articulation between the Taniwha and capitalist economy. Māori projects and objects circulate between and across Māori and non-Māori worlds which create the possibility for Pākehā to encounter and move with these circulations to work with Māori to better understand the possibilities of articulation. The same politics of knowledge production, engagement and representation must be negotiated with particular terms set by Māori. Whose ‘project’? How can social scientists engage? What is appropriate? These are difficult questions and need to be worked out between Māori and Pākehā, on Māori terms, and in Māori spaces.

These four trajectories provide a contextual backdrop and come together to form a taewa economy. The taewa is locatable as a cultural object for Māori with associated values and aspirations, an object of cultural and economic experimentation, and an object of Māori economic development in terms of imagining economy otherwise. The empirical cases of Tāhuri Whenua, potato psyllid and Aunty’s Garden come together as a Māori potato economy, one which is given form by each of these four political trajectories. Across each empirical case the taewa is articulated but how taewa economy is done and thought should not be reduced to

becoming capitalist. Taewa are embedded in Māori cultural and Māori economic projects and its circulation is a Māori cultural economy project.

## Chapter 4: Methodology: Thinking knowing and doing research differently

I am set a number of ethical and practical challenge(s) for knowing and doing taewa economies differently. This requires assembling innovative approaches to engaging with Māori economy to document how taewa economies come to be constituted. There are three particular challenges. The first challenge is doing research with Māori as a pākehā and becoming able to move with Māori people and objects and through Māori places and spaces. This requires a research sensitivity to Māori worlds [people, things and places] and Māori aspirations in order to move with actors and through nodes to understand the circulation of taewa, and importantly to support and work with Māori to co-enact economic opportunities. Secondly, I intend to journey through embodied-actor networks and situated encounters and enactments with circulations. The challenge here is to find approaches that embrace relationality, movement, emergence and uncertainty, and allow me to examine processes of circulation and articulation in the journeys I undertake. Thirdly, I require particular narration tools that allow me to represent my enactive co-performance of economy and theorise away from it.

Tāhuri Whenua (Journey 1), Aunty's Garden (Journey 2) and the potato psyllid (Journey 3) are three distinct but relational geographies. Each enacts an agentic *cut*, a different object to cut 'together-apart' economy (Barad 2003, Barad 2014: 168). Each cut is an intra-active contingent separation within economy-making: Journey 1 is an engagement with the institutionality of economy-making (i.e. institutional practices (*work*) for maintaining and expanding economy); Journey 2 engages with the work of economic experimentation in making markets; and, Journey 3 engages with the biological-cultural-economic reassembling of economy. Each journey is an object of analysis to investigate economisation from a different empirical trajectory. Taewa are embedded within each journey. To journey and make sense of these objects, my principal approach is an embodied actor network, whereby I have put myself (body and mind) in motion and *done* particular work with each object to move with these circulations across space and through time. For each object, I have circulated with their co-constituent human and non-human actors. Significantly, these journeys occur in the actual places of taewa economy, and with the actual objects. I trace exchanges, relations and articulations across Māori economy (and, sometimes into other economies). These involve people, objects (i.e. the taewa and the psyllid), and the relations among and between them. I draw the majority of empirical information from Māori participants, which has required me to give myself (and the 'project') over to the wild. I have had to develop approaches and sensitivities that allow the empirical to emerge. This has been a performative engagement in *doing* (I came to move ideas and objects and build relationships across the taewa economy) and *knowing* economy by being in the moments and nodes of its assemblage, expansion and contraction.

Methodology can be seen as co-constitutive of both epistemology and ontology (Le Heron & Lewis 2011; Lewis & Rosin 2013; Le Heron *et al.* 2015a). As researchers we enact particular worlds by way of the particular tools we employ (see for example, Law & Urry 2004; Gibson-Graham 2008). Approaching methodology in this way highlights enactive research and commitments to social justice geographies (Kinpaisby 2008; Lewis *et al.* 2015b). My aims are to work with Māori in building taewa economies, and to know and do the knowing and doing of economy differently. I need to walk a fine line between engaging with Māori politics at an appropriately surface level, but engage with taewa political-economy, free economic research from static encounters and representations, and go beyond the often patronising practice of ‘participant action research’. I ask, how pākehā readings of taewa economy can appropriately reveal the circulation of taewa; and I answer this question by pointing to the advantages of being ‘project-less’, stepping ‘inside’, seeing through journeying, and co-enacting taewa economy (in small but vital ways) as a way to know taewa economy, and give back to Māori.

I assemble a set of situated research sensibilities and sensitivities to enable me to journey in and across Māori taewa economy. I turn to the notion of traction to highlight key dimensions of taewa economy from which to theorise away. Drawn from Tsing’s (2004) concept of friction, the idea is that there are key relations that highlight the emergence, situatedness, relationality, politics, diversity, and co-constitutiveness of economy. Rather than measures of markets (outputs, inputs and returns), I focus instead on experiments, projects, exchanges and articulations and follow expansions and contractions, or as Deleuze and Guattari (1987) might have it *lines of flight* across political, cultural and economic trajectories. This approach renders exchange as open, experimentation as performative, and articulation as defining. It eschews the imperative to contain and reduce practices, objects and economy, but seeks instead to enrich the emergence of economy in its becoming with others. This project is not *the way*, but an attempt to add to the long conversation about how project-less, embodied, enactive and situated methods can work for these worlds.

This chapter begins by describing how I approach Māori economic worlds and have come to research with Māori. The second section presents the social science methods assembled for developing an embodied actor-network approach to generate and narrate material from my journeys. Thirdly I describe an embodied-actor network approach and journeying with taewa. Fourthly, I outline this approach in practice. Then, lastly I present an interpretation of this approach and summarise its significance to knowing (and enacting) economy.

#### **4.1. Engaging in seeing, doing and knowing Māori economic worlds**

Journeying, seeing, presenting and knowing taewa circulation presents a particular set of challenges. As a pākehā I am tied in to the colonial histories and experiences of Māori and Māori places. There is a politics of engagement, representation and place. How then is it possible for an outsider to come to act and learn in other(s) worlds? What is it to be situated and embodied as an outsider in other worlds? All research and methods are performative (become political)

with consequence for both the lifeworlds of those studied and the ways in which researchers understand lifeworlds (Law & Urry 2004). Research has affect and effect. Many researchers have often shyed away from or failed to acknowledge the formative relation of their projects, as post-structural and post-colonial researchers have been quick to criticise (e.g. Escobar 1995; Gibson 2001; Biggs & Sharp 2004; Cameron & Gibson 2005b). My approach responds to this challenge. It is a loosely experimental set of practices and ways of knowing shaped by the wild and by post-structural and post-colonial sensitivities to socio-cultural, material and non-human life-worlds. I draw inspiration from various antipodean scholars whose work disrupts (challenges) dominant categories, accentuates the situatedness, and enacts possible worlds (i.e. Lewis 2009a,b; Larner 2011; Gibson-Graham 2008; McGuirk 2011; Le Heron & Lewis 2011; Fisher *et al.* 2015). I approach this research with a concern over the *work* particular methods do, *engagement* between pākehā and Māori, and *where* projects come from. This section outlines particular sensitivities for outsider research with Māori, and my project-less approach coming to Māori worlds and journeying across them.

#### **4.4.1. Research with Māori**

*Kia tupato, Pākehā. Be careful pākehā. Tread warily. This is not your history or geography* (Stokes 1987: 118).

There is an emergent field of Māori geographies which have become increasingly significant in the New Zealand geographic literature. This research is growing in depth and scope (see, for example Stokes 1987, 1999; Teariki 1992; McClean *et al.* 1997; Murton 2006, 2012a; Coombes 2003, 2007, 2013; Lambert 2007, 2008, 2012; Tipa *et al.* 2009; Bargh *et al.* 2014) and situated mostly within the growing international indigenous geographic literature. A common focus is the conceptualisation and debate of being progressive and responsive to indigenous groups (Kobayashi 1994; Richmond *et al.* 2005; Waitt *et al.* 2007; Coombes *et al.* 2014). In particular there is debate about what sorts of research methodologies contribute to political self-determination and well-being of indigenous groups (Weir & Azary 2001; Castree 2004a; Laurie *et al.* 2005; Larson 2006; Battiste 2008; Coombes *et al.* 2012, 2013, 2014). In the social sciences more broadly, there is an extensive repository of research *on* indigenous groups. However, much of it has a tainted history in terms of appropriation of indigenous ideas, the re-marginalisation of indigenous groups (see, for example Grande 2004; Briggs & Sharp 2004; Castree 2004a; Townsend *et al.* 2004; Kothari 2005; Marker 2006; Murton 2012b), and the failure to engage with and give back research to these groups (see, for example Gibbs 2001; Briggs & Sharp 2004; Coombes 2007; Wright *et al.* 2012; Radcliffe 2014; Coombes *et al.* 2014). In response, a new school of geographers have sought to develop more ethical relationships and less extractive practices (Gibson-Graham 2005; Cameron & Gibson 2005; Cook 2006; Castree *et al.* 2008; Underhill-Sem & Lewis 2008; Lewis *et al.* 2009; FitzHerbert & Lewis 2010). In this thesis I look to these scholars for inspiration and build on my existing efforts to take on different approaches to research and engagement based on ideas on performativity, embodiment and enactive.

#### 4.1.2. Positioning research with Māori: a politics of representation and place

*Those of us who are involved in Kaupapa Māori do not do it because we are 'rebels who have finally found a cause', but because it is inherently right and normal for us to do so. Māori development and advancement is about practice and research that supports us as Māori to develop, not in relation to others, but to be where we want to be and to do what we want to do... Kaupapa Māori is about the right of Māori and iwi to make sense of their time and place in this world, to define themselves using their own reference points as to what is of value and what processes are important. It is about Māori constructing their own theory, explanations and outcomes (Eketone 2008:11).*

As a pākehā [outsider] conducting research with Māori, I must acknowledge, respect and develop an approach that incorporates different sensitivities. The colonial experience of Māori is at the core of the politics of representation and place (Bargh & Otter 2009). Place and social processes are both inextricably linked with a genealogy of colonial practices and Māori struggles for self-determination in attempts to maintain and create political, economic and social structures and frameworks. For many Māori scholars the colonial experience voids the validity of research by outsiders (see, for example Smith 1999; Walker *et al.* 2006). Bargh and Otter (2009) for example, question whether projects such as Gibson-Graham's community economies project could ever accommodate the injustices perpetrated in and on place. They suggest it is a further violence to presume new and hopeful projects might simply be rolled-out. Their critique is situated by the Māori concept of whakapapa and the strength of relations between people, ancestors, non-humans and those yet to come. This cannot be ignored. They claim the only appropriate research is that which fosters self-determination.

The notion of 'kaupapa Māori research' (KMR) captures much of this concern (Bishop 1997; Smith 1997; Durie 1998, 2005; Smith 1999, 2000). Graham Smith, whom first phrased KMR, states it 'evolved out of Māori communities as a deliberate means to comprehend, resist and transform the crises of ... under-achievement ... and the ongoing erosion of Māori language, knowledge and culture as a result of colonisation' (Smith 1997:27). Similarly Linda Smith drew on the Gramscian idea that the war of position in respect to the struggle to throw off colonialism is never won. She attends to knowledge and to its power, situating KMR as a means for Māori to enact 'critique, resistance, struggle and emancipation' (1999: 185). For others, KMR emerged from a suspicion and distrust of non-Māori [western] theoretical categories and methodological practices and the resultant marginalisation of mātauranga Māori and Māori ethical and cultural concerns in research (see, for example Bishop 1999; Smith 1999; Moewaka-Barnes 2000; Cram 2001; Gillies 2006; Edwards *et al.* 2005). At KMR's core it insists the 'affirmation and legitimation' of being Māori (Pihama *et al.* 2002).

In Linda Smith's globally recognised text *Decolonising Methodologies* she presents the base principles of KMR as:

*Aroha ki te tāngata ... a respect for people;*

*Kanohi kitea ... 'the face see' (i.e. you present yourself to people face to face – kanohi te kanohi);*

*Titiro, whakarongo, kōrero ... look, listen, (then) speak;*

*Manaaki ki te tāngata ... share and host people, be generous;*

*Kia tupato ... be cautious;*

*Kaua e takahia te mana o te tāngata ... do not trample over the mana of people; and*

*Kaua e mahaki ... don't flaunt your knowledge (Smith 1999: 120).*

Eketone (2008) summarises the key components of KMR as iwi Māori knowledge, iwi Māori values, iwi Māori processes and self-determination, with the goal of enacting Māori advancement and Māori development as Māori. Māori scholars have found KMR ideologies to better facilitate meaningful research collaboration and participation with Māori and [sometimes] pākehā (see, for example Moewaka-Barnes 2000, 2006; Harmsworth 2001; Ahuriri-Driscoll *et al.* 2007; Tipa *et al.* 2009). However KMR cannot be assumed as a passage of right of way for Māori researchers - each research encounter is unique and requires sensitivities to diverse Māori customs. Māori is a heterogeneous category, with diverse cultural and philosophical realities between Māori (Durie 1995b; Bishop & Tiakiwai 2002; Tiakiwai & Teddy 2003). In Geography, Tipa *et al.* (2009) have used principles of KMR to advocate flexible and multi-method approaches, bringing researchers and participants together by building responsive, enduring and supportive relationships.

In this reading, research by outsiders is not precluded by KMR, but is heavily conditioned. As 'outsiders' Underhill-Sem and Lewis (2008) argue, it requires multiple sensitivities to culture and the politics of representation, a commitment to excellence in research, and the capability to add something extra or novel from the particular skillset of the researchers. From a post-structuralist standpoint, they advocate for practices that are respectful of these sensitivities, based on the recognition that the politics of knowledge and in research such as theirs (and mine, see for example FitzHerbert 2009; FitzHerbert & Lewis 2010) will always be complex and contradictory. Outsiders will face multiple issues trying to negotiate this complex politics, and they must accept and subject themselves to it (Underhill-Sem & Lewis 2008; Lewis *et al.* 2009; FitzHerbert & Lewis 2010, 2011). These authors argue that outside researchers need to avoid seeking to capture the stories of indigenous peoples and their struggles. Rather they should commit to *empowering and resourcing indigenous peoples to tell their own stories and to withhold those that they choose not to tell* and where appropriate and possible *bolster the knowledge bases and capabilities to achieve this end* (Underhill-Sem & Lewis 2008; Lewis *et al.* 2009; FitzHerbert & Lewis 2010). The story becomes one about their encounters with particular actors and projects, and not of place as lived reality.

There are no easy additional protocols for outside researchers, just a requirement to adopt KMR practices and be adaptable, humble and sensitive of these politics. Underhill-Sem and Lewis (2008) insist researchers should adopt a different [and perhaps uncomfortable] professional

subjectivity to perform in this way, but stand-up for the value of their work and be confident of its contribution. For me, I seek to enact a decolonising encounter and a deeper relationality with taewa and Māori people. By putting myself into circulation at the invitation of Māori and taking a projectless approach (FitzHerbert & Lewis 2011) I adopt a particular interpretation of both KMR research sensitivities and the burdens of being an outsider. By respecting these sensitivities I have enjoyed productive relationships with Māori, but these cannot be taken for granted – they must be worked on and continuously renegotiated. To journey with Māori and Māori objects I have given myself over to the wild, but this never becomes comfortable. I have had to keep learning how to act and move. The next section presents how I have come to journey in Māori worlds.

### **4.1.3. Naau te whatu pākehā: A project-less approach in Māori worlds**

*If Māori have overall control, then it may not matter who is brought in to do the work (Smith et al. 2015: 127).*

*Naau te whatu pākehā* – through the eye of the pākehā. This section outlines how I imagine a KMR approach and take this into Māori potato worlds. I do not ask kaupapa or mātauranga Māori<sup>20</sup> questions nor define or seek to represent these worlds – it is not my place (Walker et al. 2006). My approach builds on my earlier work engaging with Māori through an enactive and project-less approach (FitzHerbert 2009; FitzHerbert & Lewis 2010; FitzHerbert & Lewis 2011). This led me to be able to follow Māori potatoes, Māori growers and Māori organisations on the surface of Māori potato worlds. However, I was asked to take up a deeper challenge for this doctoral research. Dr Roskrige<sup>21</sup> challenged me on behalf of Tāhuri Whenua to take up my responsibility to the growers and organisations with whom I had been working and to co-enact taewa economy with them. Unlike participant action research, which tends to come with *a priori* learning outcomes, a project-less approach is driven by a politics of emergent commitments to enactive research relationships that disrupts representational asymmetries. It constitutes a ‘wild’ and cedes agency to research participants.

Being project-less is precisely the point. Prior to my Masters research, Ngahau Davis, a participant in my honours research (FitzHerbert 2008), asked ‘what is next for you Stephen’. I replied, ‘what do you suggest?’ Ngahau sent me to Ahipara in Northland to talk with some ‘peruperu’ growers. This marked the start of my relationship with Māori potatoes, potatoes that then took me to different growers and organisations (FitzHerbert 2009). Going project-less is all about the encounter; where it takes place, on who’s terms, and for what purpose. It matters who mobilises whom in the wild. This doctoral research emerged from dialogues with growers and grower organisations in gardens and on marae. This was by Māori invitation and on their

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<sup>20</sup> I.e. What it is to be Māori? What is Māori knowledge?

<sup>21</sup> Dr Nick Roskrige challenged me in this regard on two occasions: One, at his house prior to the commencement of my doctoral research (Palmerston North, 15/12/2009); and, two, upon my PhD proposal seminar at the School of Environment (Auckland, 22/11/2010).

terms. To enact a meaningful encounter required sensitivity, empathy and openness (Underhill-Sem & Lewis 2008), and presenting myself as an interested and committed pākehā geography student not confined to a particular institutional politics and expertise (FitzHerbert 2009). Being a student geographer helped me to escape perceptions of institutional expertise and the grip of an *a priori* project, while presenting myself as open to the wild gave me different sensitivities and made me different. I did not control these encounters and once a meaningful relationship grew, others decided what type of research and what form it should take. This generated a set of relationships grounded in the 'reversed knowledge asymmetries' of the wild. I began to journey outside of the institutional frames of a project and to enact an ethics of the wild. Māori set the agenda, but I had the freedom, once negotiated, to journey with traction across Māori worlds. Encounters became research encounters, deepened my relations with subjects of taewa economy and gave me opportunities to journey further. The genealogy of the research starts with Māori interest and aspirations.

Being project-less shares ethnographic commitments to being both stranger and friend (Powdermaker 1962), but walks the fine-line between cultural relativism and intellectual objectivity differently – committing to change the world through principled enactive research (Carolan 2008, 2009, 2011, 2013a, b; Gibson-Graham & Roelvink 2010; Wright *et al.* 2012; Lewis & Rosin 2013; Cameron *et al.* 2014; Cameron & Wright 2014). This was not my project of curiosity or inquiry, and the ethics of critique lay not simply in disciplinary values, but in the nature of the invitation extended to me by Māori elders, organisations, academics and growers. I was positioned to understand, comment on, and support the circulation of Māori vegetables and the possibilities of taewa economy, and investigate the circuits of Māori vegetable exchange. Within this work I was given licence for a constructive critique, one subject to the kaupapa (purpose) of encouraging taewa economy and its articulations with other economies in place for the benefit of growers. These were the terms of my invitation as an embodied researcher with feet in Geography, the University of Auckland, my own previous work, and the relations I had built. The approach seemed to work, I was able to complete this research and I am still there, and providing, I hope, substance for Smith *et al.*'s (2015) restatement of KMR politics: *it may not matter ... [if the researcher is non-Māori] ... so long as Māori have control.*

I draw on Cook's notion of following to give this research structure. I followed myself and my encounters 'in the wild', taking my lead from an invitation to circulate and momentum generated by the interests of the researched. I put myself in motion, followed, listened and watched and waited for appropriate moments to engage. Following in this way took me into 'unframed' research spaces with no prior conception of what or how I wanted to learn. My quest was not to contain wild happenings in an *a priori* framework or project, but to allow the 'what' and 'how' to take form in the wild. The initial encounters proved crucial and framed the engagement in terms that ascribed agency to the wild, and let the wild situate and mobilise me. I was then free to 'theorise away' from the wild. It required me to embrace uncertainty, non-linearity, being enactive, and the importance of affect and learning to be affected.

Giving over control and unsettling the politics of project set me free (to an extent) to journey across Māori worlds with Māori objects, and be opened up to different actors, relationalities and spaces. Journeying required a relational ethics (in)formed by Māori actors, places, and scholarship. My project became assembled by assemblages in the field: my journeys became uncertain and emergent engagements with Māori and taewa. To engage is a valuable contribution to these circulations of taewa. Knowledge is co-produced, relational, revealed and situated in Māori worlds. It recognises that knowing is a collection of multiple and individual projects. This takes action research in a new direction towards the wild and further challenges how we practice as academics. It breaks free from the project, the interview and the patronising overtones of participant action research. I suggest we ought to engage in multiple engagements and reflect on the work this may perform. For me it seems to work in terms of enacting a meaningful relationship with Māori. Being project-less in this way helped me to understand myself, my role and my ideas differently – as built on (and from) a deeper relationality with Māori matters of concern. It allowed me so see situatedness as embodied in my particular circulations.

For generating empirical insights, the approach takes things a step further too. Leaving behind categories performs the emergence of economy as messy and multiple with uncertain 'outcomes'. Being project-less and being freed to journey enabled me to read the circulations horizontally and reverse (or rather flatten out) some of the privileges (i.e. that all exchanges are market-based, that economy is capitalist/non-capitalist, and that experts are economists). Economy-making reveals itself as a set of becomings rather than a set of outputs. This pointed in particular to ways out of the bind of a focus on alterity alone, as social action and social possibility; and thus a way out of containment in alternative economies to a concern with their articulation with other economies.

## **4.2. Methodological practices: thinking embodied actor-networks and journeying.**

What approaches in the social sciences are available for me to generate interesting material, and enact and know the world otherwise? I have employed what I call an embodied actor network approach to journey amongst and with circulations of Māori growers, Māori organisations, and potato psyllids. This is informed by post-structuralist methodological trajectories: Ian Cook's idea of *following*; Latour *et al.*'s *actor networks* and *learning to be affected*; and Callon *et al.*'s *research in the wild* and *hybrid collectives*. My projectless journeying is inspired not only by post-colonial scholarship in contemporary Aotearoa New Zealand, but by Whatmore's observation that 'generating materials ... [is] a process of knowledge production that is always, and unavoidably, an intervention in the world' (2002: 90-91). That is, like Māori in a particular context, post-structuralist scholars recognise that methods are performative – they generate particular material and enact particular worlds (Nash 2000; Thrift 2004a,b; Law & Urry 2004; Gibson-Graham 2008). Hence we need always to 'think [seriously] about the worlds [we] want to help make' (Law & Urry 2004: 391).

### 4.2.1. Following: moving with taewa

Ian Cook is part of a school of geographers concerned with the capacity of objects to enable, precipitate, and shape social relations (see, for example Whatmore 2002, 2006; Thrift 2004a). Cook's following project is part of the geographical (re)turn to material cultures in an effort to replenish the material and enact the liveliness of the material world. Additionally he seeks to encourage more personalised 'detective work' in geography with an aim of revitalising the disciplines ethnographic traditions (Cook 2006; see, for example Ley 1974; Western 1981). He draws on actor-network ideas to introduce the notion of following to trace the journeys of foods from field to plate in order to articulate the diverse landscape of meanings and values in which they circulate. As he points out:

This is much more difficult than it sounds ... a good following story has a clear focus ... like a chicken. That never goes out of sight. But anything and everything that's in and around it (throughout its conception, birth, life, death and travels) could become part of that story ... So many things that aren't supposed to go together in theory come together in practice (Cook 2006: 657).

He insists that 'following' is a productive methodology for tracing the relations which constantly (re)value and generate new meanings for the thing [in my case the taewa] for those who work with/on them as they move from the nodes at which they are cultivated to the nodes at which they are exchanged and beyond (Cook 2004). Cook and others (see, for example Holloway *et al.* 2007; Cook *et al.* 2011) argue that by following food we can recount the 'bigger picture' about things such as the politics of cultivation, exchange and translation. Using this approach, geographers have revealed the social relations of discrimination, exploitation, imperialism, racism, and environmental damage wrought by food journeys, thereby embedded in foods (Cook 2004; Castree 2004b; Friedberg 2004; Jackson *et al.* 2009). But, following can also produce a geography of hope and difference to empower, shed light on, and support the values and meaning of diverse economies (see, for example Holloway *et al.* 2007; Smith & Jehlička 2007; FitzHerbert 2009). In the contexts of both food and diverse economies, following has been used to investigate the politics of value and uneven development and to see commodities through the cultural perspectives of indigenous people (see, for example: Hoskins 2007; Gökariksel & Secor 2010; Wilson 2012; Harris 2013; Yeh & Lama 2013).

Cook follows food to get inside their networks, see relationships and connect flows to diverse meanings, practices and values. The approach is rich in description, grounded in both ethnography and post-structuralist theory (Appadurai 1986; Latour 1987; Harvey 1990; Marcus 1995, 1998). In particular, he weaves together two trajectories of thought, Appadurai's practice of examining 'the social life of things' and Latour's practice of following actors to reveal how they become through their relationality to others. Appadurai emphasises that by following objects it becomes possible to understand the 'processes of inscription' by which things are given meaning (quoted in Hoskins 2007:440). If objects can act upon and inform their circulation and exchange, non-humans have life [agency] and can be read into human contexts, agencies

and forms. The object's materiality affects its relations and cultural value. Focusing on the material lives of things highlights different meanings. Actor-network thinking (see next section 4.2.2) assumes *relations* make *things* – *things* are nothing without their relations (Callon 1986a, b; Latour 1987, 2005; Law 1992). Cook brings these two trajectories together to enrich concept of space by tracing the co-constitutive performances of people, objects and place in producing values and meanings. He aims to bring food networks to life by revealing the relational performativities that create and are created by things. The connections that must be traced are genealogical, ontological and topological.

As an approach, following invites me to journey with things and their assemblages, to explore and reveal the actors, relationships, meanings and value of articulation which co-constitute taewa economies. This provides a different way to read the landscape, and one that connects with Māori world views that see 'things' as having a life force of their own. It focuses my attention on the construction of relationships which constitute the thing and its travels across the landscape. As an ethnographic form of engagement it challenges me in terms of enacting new postdisciplinary theories and relations of care, for ourselves, our audiences and for the people, places and foods with whom we research. Cook and colleagues (2006: 662) suggest that following presents a technique for a postdisciplinary era in which 'studies need to be less disciplined and less finished', and which (citing Rich Heyman) might 'keep ... open the problematics of knowing beyond the end of writing'. They go on to observe that, in a description of following that echoes my own commitments to projectless research, following might:

*... make writing much more widely accessible, leave things open to interpretation, give our readers (and other audiences) some sense-making to do, so they can get more involved, put themselves into the picture, draw upon their existing knowledges, ethical frameworks, and so on. And they might get sucked into our stories, the lives of the people (and other) we set out to meet, and the connections we set out to gain a better feel for* (Cook et al. 2006: 662).

At stake is the ability to reveal the cultural, social, economic, more-than-human and spatial dimensions of taewa economies, their circulation and articulation, and importantly the relations through which things get meaning. Following makes economy visible and forces us to rethink it (FitzHerbert 2009). It lets things (i.e. relations, imaginaries, circulations and institutions) frame and spatialise themselves. This captures things that transcend the cultural, and gives me an opportunity to avoid any effort to speak for the subaltern (Spivak 1988; Smith 1999). As an approach it helps me escape frames, presumes relationality, and assumes things move, giving me a more clearly sketched out trajectory of movement and transformation. While critics point to the over-attention paid to the material (Goss 2004, 2006; see also, Barnett & Land 2007), following provides a route to avoid top-down theorisation that reads the landscape in categorical terms ordered through dominant relations. Its emphasis on surface-level phenomena, the emotive, the experiential, and the cultural, and reads power as emergent from relations in place. However, this does beg the question of what to follow. Here Larner (2011) insists that we need to be selective about our origin points, and 'make informed

decisions about what discourse, policies, techniques and subjects we follow and to where... we also need to understand that these travels may not begin where we think they do, and they may take us to places we do not expect to find ourselves' (97).

I take up Larner's (2011, 2012b) challenges to be selective about what to follow and from where, and to *take the problem of translation seriously*. In response to the first challenge, I choose not to be selective *a priori* by projecting myself along a pre-set pathway, but to be continuously reflexive. In response to the second, I observe that the very act of following highlights and centres both the cultural and the political in cultural economy. While there are rules about the use of taewa and cultural and political institutions at work in its articulation, these are negotiated in relation as taewa circulate and encounter subjects and objects, becoming new things as they move. By honing in on the assemblages and nodes of articulation, the political is revealed through encounter and qualification. Following has a clear resonance with both KMR and ideas of economy in the making. It is an approach to reveal worlds in the making and tailors research to its practices, which depend on travelling with the interests of the researched. The researcher becomes mobile and part of the assemblage of economy in the making and the research takes place in the spaces of people, resources and organisations.

#### **4.2.2. Actor-network thinking and learning to be affected**

An actor-network thinking (ANT) approach maps the relations that are simultaneously material (between things) and semiotic (between ideas) (see for example, Callon 1986a, 1986 b, 1991; Latour 1987, 1988, 1996; Callon & Law 1989; Law 1986, 1992). This section outlines actor-network thinking so as to focus attention on Latour's notion of 'learning to be affected' to my embodied experience of following and crucial to a performative programme of research. Loosely defined, actor-network thinking rejects essentialist explanations of events or innovations in favour of seeing worlds emerge via expansionary networks of relations among humans and non-humans, with the latter in the same terms as actors. In these terms taewa are an actor. It is the relations between them and others that matter. There are no things by themselves, there are only relations and assemblages made by the coming together of things. For Latour, objects have a fundamental role in the production of society:

*Social structures and symbolic representation are not solid enough to frame durable interactions and hold social reality in place; wherever interactions have a temporal and spatial extension, it is caused by human sociality with non-humans* (Latour 1996: 51).

Agency itself emerges from connections between people and objects and the relations they form. Multiple actors collide and translate to co-constitute their social and material *being*, but things are always in motion in discursive framings. Pels *et al.* (2002: 11) points out that 'objects need symbolic framings, story lines and human spokespersons in order to acquire social lives: social relationships in turn need to be materially grounded in order to gain temporal and spatial endurance'. As a methodology, actor-network thinking attends to the work, movement, flow and changes within a network which constitutes its 'state of affairs' (Latour 2005: 144). It is a framework within which it is possible to follow objects to see how taewa economies *become*,

and as always becoming and multiple. That is actor networks are always relational and always becoming.

The potential depoliticisation of such a radical relationality is widely criticised. Critics ask how we are to differentiate relations [associations] and how we are to understand and account critically for the ways in which they are generated (see, for example Castree 2002; Amin 2004; Featherstone 2005; Massey 2004, 2005). Routledge (2008) responds by pointing to the potential politics of acting in the network, which allows the researcher to engage with the politics of diverse relationalities and how they become by being there (see also, Law & Singleton 2013). By techniques such as following, the researcher can place their own body within uneven topographies of diverse actors, relations, and capabilities. Networks are open but less radically than might be imagined in relation to their relationality [co-ordination], the work they do [assemble realities], and the forms and shapes they keep, take and retake. I utilise actor-network thinking to identify agency in relations among things, and to trace expansion among relations in multiple and under-determined directions. Describing taewa economies is, in part, assembling them (Latour 2005). Each journey that I take with taewa assembles taewa economy differently.

Thinking and learning with the body has been a key development from ANT (see, for example Mol 2002; Latour 2004a; Mol & Law 2004). ANT directs attention to embodiment, our relationality to things, and the opportunity to see, feel and enact hybrid worlds (see, for example Thrift 2004a; Routledge 2008; Müller 2015). Latour (2004) directs attention to the relationship between individual and collective bodies, for a body to be alive in the world it must be able to be moved by its relationships with the wider body-world or collective body. In this sense it reveals the coexistence of body and the world. Latour suggests that we do not enter networks with these capabilities pre-formed but learn through embodied encounters via what he terms *learning to be affected* (2004a). Working with the notion that the body is a sensory body, affected by and relational to others, he draws on Deleuze and Guattari's discussion of *what a body can do* (1987:256-257) and Spinoza's idea of *affect*, to think about what becomes as the body feels [and acts out] *intensities* through its relationality to other bodies. For example, the relationship between the potato psyllid and taewa induces intensities for the individual [i.e. grower, taewa, scientist, and psyllid] and collective capacities to act. Learning to be affected is an embodied approach to knowing and doing that foregrounds our relationality and situatedness/embeddedness in the world (Whatmore 2002). It allows the researcher to get closer to human and non-human life-worlds.

There are strong echoes here of Haraway's (1988) concept of *situated knowledge* - there are no absolute truths, only viewpoints from somewhere on particular things. Haraway challenges universal stories by revealing the somewhere [and the something(s)] which affect how the world is known. She insists that the world is multiple, and our knowing is relational to where we are and the things (both human and non-human) around us; there are no innocent positions from which to view the world in order to produce knowledge and this must be

acknowledged. Things (knowledge, ideas, object) are always relational to *something* and *somewhere*. Knowledge is produced from these relationalities. Two implications in particular are helpful here. First, it is from these ideas that she argues for greater consideration of non-humans as companions to invoke a caring for the world (Haraway 2008), a reflection that guided Latour (1993), De Landa (1997), Carolan (2009), Bennett (2010), and Barad (2014), among others. And second, this approach to telling *stories* about the world and making *theory* from to understand the world from *learning* and *thinking* with our bodies has made a particular contribution to post-colonial thinking. As she observes:

*All the people who care, cognitively, emotionally, and politically, must articulate their position in a field constrained by a new collective entity, made up of indigenous people and other human and unhuman actors. Commitment and engagement, not their invalidation, in an emerging collective are the conditions of joining knowledge-producing and worldbuilding practices. This is situated knowledge in the New World; it builds on common places, and it takes unexpected turns.* (Haraway 1992: 315)

Numerous geographers have picked up the idea of learning to be affected, particularly those engaged in the diverse economies project (see, Roelvink 2010; Gibson-Graham 2011; Sarmiento 2015; Cameron *et al.* 2014; Miller 2015). Gibson-Graham and Roelvink (2010) in their proposed *an ethics for the Anthropocene* use this idea of bodily relationalities and learning to be affected to make a case for the generative ethico-political capabilities of diverse economies. They argue, by learning to be affected through participation in diverse economies, we might better recognise more-than-human others and enact *hybrid collectives* (see next section). Learning to be affected intensifies relationality between people [including the researcher] and the non-human and stimulates shared matters of concern for others. Co-existence and the disclosure of new worlds generate and transform *hybrid collectives*. Learning to be affected is 'co-transformative', with capacity for action enhanced as individuals 'learn to be affected in collectives/body-worlds' (Roelvink 2010: 112). As a politics, affect and *hope* can create feelings of possibility and increase the possibilities for action in the context of hegemonic ideology (Gibson-Graham 2006; Anderson 2006). Roelvink (2010: 117) suggests that learning to be affected by diverse economic interventions can be a directly political knowledge production strategy as well as a political moment in a researcher's own habits of thinking and becoming as 'more-than-a-researcher'.

In this thesis, the idea of learning to be affected offers new ways of being with the taewa assemblage in terms. It reinforces the politics of following and projectless commitment to the wild and the value of experimenting with Tāhuri Whenua, supporting growers, and struggling with them in the battle against the psyllid. Similarly, it offers an entry into thinking about the relationality between growers, taewa and the psyllid and how they come to live together in new taewa economies. As a grower, I too have had taewa die due to the psyllid, which raises the possibility of having learned to be affected by the non-human alongside Māori. While this kind of claim points to the difficult politics of possible cooption of indigenous viewpoints, it does

point to the transcendent possibilities of affect – that it might displace prior political and knowledge categories in the name of more hybrid collectives of shared concern.

### **4.2.3. Hybrid research collectives and research in the wild: relationship on journeys**

The idea of *research in the wild* and *hybrid collective* has emerged from actor-network ideas. Callon and Rabeharisoa (2003) coin the idea ‘hybrid collective’ and ‘research in the wild’ to capture and make sense of the collaborative action research into muscular dystrophy carried out by medical practitioners, scientists and publics in France (see also, Callon *et al.* 2009). Muscular dystrophy is conceived as a *shared matter of concern* between these people, some of whom occupy the wild and some the lab. They draw off Callon and Law’s (1995) term *hybrid collectif*, an arrangement of materially heterogeneous bits and pieces, including humans and non-humans. These give form and direction to the research process – it is the relations between these that matter (Callon & Law 1995). Hybrid research collective, they define as ‘the mixing (of) humans and non-humans’ in the constitution of knowledge and identities and spaces for political intervention (Callon & Rabeharisoa 2003: 195-198). Callon and Rabeharisoa argue that this approach breaks down boundaries between scientific and concerned lay knowledge (and humans and non-humans). Each brings their own experience and knowledge and their relationalities to work cooperatively to co-produce scientific knowledge and social identities. Non-scientists become ‘researchers in the wild’ (2003:195). The hybrid collective becomes engaged in processes of learning to be affected by the collective body-world. This conceptualisation of agency sees it as emerging from the wild and from collaborations in which researchers are not necessarily in control - other things [human and non-human] are at work and political decisions are co-constituted by the collective.

The Community Economies Collective has picked up on these ideas (see, for example Gibson-Graham & Roelvink 2010; Gibson-Graham 2011; Cameron *et al.* 2014; for others who worked have with these ideas see, Cave *et al.* 2012). They argue the notion of a hybrid collective gives them an entry into an ethics of more-than-human interdependence that makes possible learning, acting and being with the more-than-human, and enacting a co-transformation of economy and life-worlds. Cameron *et al.* define hybrid collectives as ‘heterogeneous materials and relations that act’ (2014: 129). They situate this approach as a [performative] different mode of critical inquiry, one which attends to ‘the potential for new knowledge and practices to emerge from the research process itself’, rather than being concerned about ‘tapping into pre-existing knowledge’ or ‘evaluating current efforts’ (Cameron *et al.* 2014: 119). They seek to understand how research might foster opportunities for a range of human and non-human participants to act in concert to generate a shared aspiration and politics of possibilities so as to co-transform economy and enact diverse economies. Drawing on actor-network thinking they attend to ‘actancy’ and explore how the relational networks of hybrid collectives act (and could come to act). They claim the approach helps add durability, and supports the emergence and development of diverse economies. Their approach draws on participatory action research, but

propose an action research method in a poststructuralist vein; one that ‘works on matters of shared concern with pre-existing collectives to foster emergent possibilities’ (Cameron *et al.* 2014: 119, see also Cameron & Gibson 2005b; Underhill-Sem & Lewis 2008; FitzHerbert & Lewis 2010). Essentially they argue researchers can act in concert with others – including lay researchers and non-human actants – to enact and participate in hybrid collectives to support already existing projects.

They propose three practices (or ‘interactions’) of a hybrid collective research method. ‘Interactions’ involve varying degrees of intentionality and control over outcomes. Drawing from Jane Bennett (2010:32), they understand intentionality as always in ‘competition and confederation with many other strivings’ and something which can both affect and be affected. The first practice of interaction is ‘gathering’, which builds on Law’s notion that ‘to gather is to bring together (...) to relate (...) to pick (...) to meet together (and deliberate ...) to flow together’ (Cameron *et al.* 2014:100). For Cameron and colleagues (2014:122) this involves ‘bring(ing) together human and non-human actants over a shared matter of concern with a high degree of intentionality in terms of what might result, but little control over what the actual outcomes might be’. Such practices ‘build up or add together’ (122). The second interaction is ‘reassembling’, whereby material is deliberately rebundled to amplify particular insights. This involves both a high degree of intentionality and control of what gets produced (Cameron *et al.* 2014). Drawing from Law, they suggest that reassembling is ‘a more considered and deliberative taking apart and re-bundling of knowledge and know how in order to produce a particular telling (representation) of the world ... [which] once let loose in the world, take on a life and reality of their own as they are relayed and translated in ways well beyond the intention or control of those involved in the reassembling’ (Cameron *et al.* 2014: 126-127)

*... method is not ... a more or less successful set of procedures for reporting on a given reality. Rather it is performative. It helps to produce realities ... it is also creative. It re-works and re-bundles ... and on do so re-crafts realities and creates new versions of the world (Law 2004: 143; cited in Cameron et al. 2014: 124).*

The last interaction is ‘translating’. This occurs when reassembled ideas are taken up by [and taken to] other collectives so they may continue to do work. Cameron *et al.* claim this ‘involves a hopeful orientation towards what effects might emerge, but no way of enforcing any particular intention or control’ (2014: 122). They draw on Callon and Law’s ‘chains of translation’ from the absence reality on the one hand to a re-presentation of that reality on the other. Chains vary in length and kind, for example linking things to texts, texts to things, and things to people (Callon & Law 1995: 501). It is the chains which make the things, the texts and the people. The chains of making and re-presenting cannot be distinguished, except locally, and for certain purposes (Callon & Law 1995: 501, cited in Cameron *et al.* 2014: 127). Revealing chains makes it possible to keep durable ideas and relationships. There is a possibility (and hope) that ideas and relationships will continue beyond the immediate research timeframe.

Together these practices may increase the chances of generating new emergent possibilities, but ‘they cannot dictate or determine them’; they are deliberate acts but have uncertain outcomes and cannot pretend to control ‘actancy’ (Cameron *et al.* 2014: 130). By adopting a stance of openness that allow possibilities to arise, researchers can become hybrid collective co-creators and co-participants alongside others, part of the *chains* between things, people, resources and experimental ideas in association.

Both hybrid collectives and research in the wild inform my approach, although my intentionality seems to be more explicitly mediated by the wild. However, while I have limited (if any) control, the trust and freedom to journey that I gained present a frame for me to think my acts and their relationality to Māori, in reference to becoming an agent of circulation and articulation. The approaches lend support to KMR approaches and insist that research attributes greater agency to Māori, recognises diverse expertise, and builds towards co-production and co-enactment of knowledge. More generally, they present possibilities for different approaches and co-learning opportunities in cross-cultural knowledge production. They do not explicitly address how a researcher may come to leave a hybrid collective or the wild. Perhaps the point is that the hybrid collective lives on and/or becomes reassembled and the ideas and relationships may continue to construct future opportunities and possibilities of engagement.

### **4.3. Embodied actor-networking and journeying**

Being situated, embodied, enactive and mobile in taewa economy generates interesting material. Being-project-less opens up research spaces and lets subjects emerge through encounters with the wild. I come to know economy by doing, going places, entering other places, and staying with objects. By journeying I encounter economy for longer and in different ways. It goes beyond a simple, discrete interview, and reads economy-making across landscape not down, giving me the ability to investigate grounded micro and macro level processes. This provides a deeper, situated and richer conception of economy and market. This section describes how I went about this.

#### **4.3.1. A project emerges from the wilds**

My project emerged in the wild, its terms and practices set by Māori actors as suitable for a pākehā geography student. Tāhuri Whenua was interested in revealing the taewa economy and economic opportunities for taewa in new ways. Executive members of Tāhuri Whenua, Māori elders, growers and Māori scientists worked to generate a research ‘project’; a co-constituted project that would inform and stimulate the production, exchange and commercialisation of taewa on Māori terms and would be guided by an ethics established by Māori elders and horticulture academics in the wild. This project-building process was worked at over numerous months and at many different sites. It built on existing relationships from my Masters research, but also involved new relationships and the negotiation of a new set of research protocols and relations of access. The process was all about rights and responsibilities to engage and to journey, and involved setting out expectations, pathways and connections that are irreducible

to the conventional understandings of goals, timelines, access, outputs and so on that mark out research projects. The project was about the negotiation of project-less research journeys and enrolment into certain circulations. I put myself in the hands of the research wilds. Once the project was constituted, I submitted the proposed project to FoRST's (New Zealand's national science funding agency) Te Tipu Pūtaiao funding round, a funding pool set aside for those looking to conduct applied science with Māori. The proposal required the endorsement of an iwi organisation, in my case Tāhuri Whenua.

Once the proposal was accepted for funding, I submitted a project proposal and an application for human ethics to The University of Auckland. Demonstrating Māori involvement and support is almost a pre-requisite for contemporary research on issues of Māori interest. My application was endorsed by written letters of support by Māori, who stated the value of the project in their terms and how the research should be conducted. I (the researcher) was not the only person arguing for the value for the research. Indeed, counter to standard institutional practice of taking a pre-formed and authorised project into the wild, I took the wild to the ethics committee. Human Ethics Approval was granted on 12-02-2010.

#### **4.3.2. Going into the wild: Enrolment, networked encounters, relationships and responsibilities**

The project built on my earlier research and the relationships that I had developed with growers, their whānau, and members of Tāhuri Whenua and Māori economic development organisations (i.e. Ngāi Tahu & KAHC). However, this did not mean I could *go in* and keep finding stuff out. I needed to (re)present myself as a student, geographer, an interested other open to others' politics. Furthermore this time the research was directly funded by targeted State-Māori investment. A number of prominent Māori, who had been significant during my Masters research, now challenged me to reaffirm my commitment and potential contribution to Māori groups. Having been around (and a member of) Tāhuri Whenua for a few years, my responsibility increased. At my doctoral confirmation presentation, I discussed my positionality as a non-Māori and the necessity to restrain my inquiry to surface matters. Nick Roskrige, my Māori mentor and chair of Tāhuri Whenua challenged this perspective. He stated Māori growers had given their trust to me and had hope about what could become of the research. The outsiders glance did not work; he said I had a responsibility to these people and that the *balance of exchange* between Māori and you must be equal. I needed to *do* and *say* things that mattered (i.e. find stuff out, share stories, and help keep taewa alive). Once I satisfied Tāhuri Whenua, opportunities emerged to continue journeying.

All this took time, but enrolled me in key networks as a connected other and into active circulations of taewa. I sought to assemble and extend these involvements into other circulations. I learned how and where to journey, and who and what to journey with whilst participating in these networks. I did not bring these key methodological framings with me from the pages of a project. Indeed, the journeys I began to take departed from those that I agreed

with Tāhuri Whenua to study. Invitations to come see what people were doing led to a broadening of my interests in the taewa economy beyond exchange to building and maintenance, expansion and contraction. New invitations presented new opportunities to generate a richer and more diverse reading of taewa economies. Before and after these route changes, my proposal was informed, tested and evaluated by the ethics committee of the wild, which included Māori elders, scientists and taewa growers. In particular, they led me to recognise the importance of the encounter and exchange. The encounter should always take place at Māori invitation, on their terms and in their spaces. And, the exchange should be equal (i.e. take something with you e.g. seed taewa, taewa, taewa stories, kai, koha). Embracing the challenge of encounter and exchange led to productive research, and opportunities to travel to other spaces and with other actors. Invitations to 'come see what we're doing' (e.g. growers and Aunty's Garden organisers) at hui formalised these encounters and exchanges, and hui became a key field site.

### **4.3.3. The journeys: and introduction**

The three empirical cases are called journeys because that is what literally I did. Each represents an ethnography of encounters and movements within particular circulations. Journeying took me beyond the containments of place-based case-studies to an emphasis on encounter and circulation (FitzHerbert 2009). Inspired by Gibson-Graham's (2011) idea of adventures, or *adventures in the wild*, journeying took me from static representations to open and enactive dialogues. I started journeying with these circulations in 2009, before the PhD research commenced (i.e. attending hui, dialogues with Māori, moving seed taewa, spending time with growers, tracking them in media etc.). These journeys were unplanned – I was enrolled into them through the invitation of Māori and encounters with the psyllid. Each had a particular origin point (my Masters research, invitation at a hui, and the appearance of psyllid on my own potatoes) but were interwoven and criss-crossed much of Aotearoa New Zealand. Taken together, they open up much of the world of taewa economy and provided rich learning material.

The cases present three different cuts (to use Barad's term 2003) into economy that emphasise different circulations and themes: building and maintaining economy [Tāhuri Whenua], expanding economy [Aunty's Garden], and the contraction of economy [potato psyllids]. Tāhuri Whenua institutionalises taewa economy and works to hold together and expand networks of production and circulation of taewa and other Māori vegetables. It assembles taewa growers, cultural practices, values and traditions, and injects research, investment, and new potatoes into economy. The journey through Tāhuri Whenua reflects on four key moments: situated experimentation and knowledge production; taewa circulation and exchange; articulation with other economies [state, capitalist and science]; and, injecting in new stuff. Aunty's Garden is an experiment in making markets which sought to articulate diverse and capitalist Māori economies so as to take Māori 'to the market' and get things moving in Māori economy. It brings together different actors with different economic imaginaries, including a

Māori asset holding company, state development agencies, a professional management consultancy, and Māori vegetable growers. It injects new things into the taewa economy, such as technology, virtual worlds, a Brand Māori, and a capitalist circuit of exchange. I was able to follow at close quarters and journey with Aunty's Garden from proposal to construction of infrastructure, operation, demise and new becoming(s). The potato psyllid is a pest that struck taewa and other potatoes in 2006, and became a matter of concern for taewa growers from 2009. It has reassembled taewa economies and highlights the 'bio' in the bio-socio-technical agencements in economy-making. The psyllid has had cultural and state-level political and economic effects and has been deeply affective for growers: the loss of taewa crops; science investment; and a rethinking of taewa production. Each demonstrates new actors, practices, values, emergences, and foreclosures.

They are dominant stories that each give shape and form to taewa circulation and present a series of articulating relations. They demonstrate how taewa economy is assembled and reassembled. I cut into this complex assembling and tell stories about relationality. The telling of these three journeys in Chapters 5 to 7 reveals different moments of economy and emphasises how articulation was central to each case. The journeys reveal how key relationships take form and do work. The three journeys are co-constitutive: Tāhuri Whenua members became 'Aunties' to take taewa to market; Aunty's Garden extended their relations into Māori horticultural economy through Tāhuri Whenua; the psyllid killed the taewa of 'Aunties' and Tāhuri Whenua members; and, Tāhuri Whenua invests in learning to live with the psyllid. Pulled together in this way they say much about taewa economy: Tāhuri Whenua points to the work of institutions in making, expanding and holding economy together (it holds binds and builds economy); Aunty's Garden highlights the work of economic experimentation in articulating exchange between diverse and capitalist economies (it gets things moving); and potato psyllids emphasises the role of biological actors (it contracts and reassembles). Each registers a different but related account of economy-making – they share sites, circulations, growers, and moments of articulation. Taewa and I flow through each, and I seek to hold them together.

#### **4.3.4. The actors: an introduction**

My initial selection of actors was informed by earlier experiences (FitzHerbert 2009) and asking what might be associated in a taewa assemblage that 'makes others do things'. I predetermined taewa to be an actor, but left others to emerge in the wild. I wanted to follow and be in the sites where taewa grew, were discussed, and were part of different projects, and then trace these relations to identify other actors. Taewa does stuff and is mobilised in different ways through its relations to other actors (i.e. Tāhuri Whenua, Aunty's Garden and the potato psyllid). Taewa were doing things and having things done to them in each case journey. I traced relations away from taewa to identify other actors; in a sense, they found me as I journeyed (Table 4.1). The actors are prominent, directly involved, occupy vantage points, and do stuff to (and with) taewa. I was able to follow them (at their invitation and or in material form), and they

introduced me to their agentic relations, which I sought to uncover, interpret and describe. I investigated connectivities and relationalities, within taewa economy and externally to Māori political, Māori economic, and biological worlds. Each actor is bound differently to the association and contributed different 'transformations' and 'states of being' to the taewa assemblage.

**Table 4.1 The key actors followed for each journey.**

Journey 1. Actors	Journey 2. Actors	Journey 3. Actors
Taewa, Tāhuri Whenua, Nick Roskruge, The Uncles, Hanui Larence, Makuini Chadwick, Aleise Puketapu, Growers, State, Scientists, Aunty’s Garden, ALMAC, virus-free taewa.	Taewa, KAHC, MET, State, Aunty’s Garden Ltd., Hanui, Aramanu, Ben, Nick Roskruge, auntysgarden.co.nz, twitter, facebook, youtube, aunties, Tāhuri Whenua, experts, computers, communication technologies, vegetables ‘fresh produce’.	Taewa, psyllids, Lso, Tāhuri Whenua, Aleise Puketapu, Nick Roskruge, growers, Potatoes NZ, scientists, State.

**4.3.5. Encountered challenges**

My positionality as an outsider was complicated and contested. I was not always invited into key moments of circulation. My invitations generally came from Māori elites and some growers. Others often asked what I was doing in their world, or were silent. More often than not, after discussion or being (re)introduced by my ‘sponsors’ these questions abated. Those who invited me ‘in’ occupied relative positions of power and ‘mana’, which made my presence possible but positioned me in particular positions of power. I was positioned relative to my sponsors, and whilst in longer term relationships that positionality faded and I was able to become my own person (the Pākehā researcher with the strange calling for taewa), I was commonly an institutional figure. At times, I was not welcomed. For example, on one occasion when I visited Uncle Jimmy in Bulls, a kaumatua (elder) told me to ‘bugger off Pākehā’, Uncle Jimmy, to my defence, told him ‘stuff off, he’s with us (Tāhuri Whenua)’. Similar instances occurred, with similar responses. And, on other occasions ‘the silence’ was broken, when someone (i.e. the Uncles, Hanui, Nick Roskruge) said you should ‘have a kōrero (dialogue) with Stephen’. These people positioned me in relation to Māori worlds (a Pākehā, who is here to support).

Certain journeys did not take flight while others became absorbed within the three journeys. One planned journey with a Ngāi Tahu initiative came to an abrupt end when they lost their entire crop to potato psyllids. Through all of this, two particular challenges proved problematic, and demanded some soul searching. Firstly, sticking to the surface was difficult. Certain growers charged me with the responsibility of sharing their stories with other Māori. These delved into subjects of kaupapa and/or mātauranga Māori. As such, I needed to delineate stories for ‘the research’ and those to be kept close. I confirmed with the participants that their

taewa stories would only be shared on the marae and with other Māori growers. Secondly, I became wary of others' projects and needed to end certain journeys. Turning-down an invitation and/or walking away from a journey was difficult. Whilst no encounter was easy and/or the same, in my journeys every so often an ethical (and moral) dilemma emerged. Encountering significant power asymmetries in the wild and some illegal activities, although not immediately threatening to me, forced me to and ask myself ethical questions (e.g. by being involved what politics do I support?). I was not in a position to challenge what was occurring nor did I feel comfortable asking questions, given that it may just be my Pākehā view of a Māori world. I cannot disclose the particular incidents, but they did force a decision on whether to ignore personal concerns and keep journeying or end journeys. I decided to end one particular journey, although maintained an on-going relationship via email on various things taewa. Each challenge is a cautionary ethics for journeying, being project-less and moving through others worlds.

#### **4.3.6. Emergent intentionality – letting the wild determine**

What was my intentionality going into the wild? I did not have one other than to follow taewa and see what emerges. I wanted to support Māori to keep taewa alive by revealing the possibilities of exchange. To a large extent I sought to find 'economic exchanges', which mapped onto the TTP research grant. Beyond this, however, I went where I was led. This took me on three open-ended journeys through taewa economy. I began with Tāhuri Whenua which had taewa as a central matter of concern. From there I saw other assemblages emerge and became able to journey more widely and to see new things 'let loose' in the taewa world, which would become their own discrete journey. I journeyed with Aunty's Garden and potato psyllids from their outset in the taewa world - I had no idea what would unfold. Aunty's Garden produced a market for a time, before failing, while the psyllid, which is still decimating crops, became a shared (and embodied) matter of concern for all human actors in my journeys. I had no control over these journeys, and by journeying without knowledge of what to expect I was able to embody the assembling and emergence of economy, which is something different to action research. I learnt to be affected in and by the wild and theorise away from these affects to understand how economy is constituted in Māori taewa worlds.

All this required an experimental disposition, one comfortable with uncertain relationships, limited (if any) control over, and being project-less and open to the wild. Enrolling human research participants was less a concern than knowing how to act generatively and appropriately on the invitation to 'come see what we're are doing'. This emphasized co-production of knowledge. By being project-less I became free to circulate, taking me to unfamiliar places and insights and allowing me to experience first-hand how things move, where they go and what happens, and understand how things change as they travel. It provided what I believe to be a richer account of what is going on than one grounded in pre-existing conceptions of presence and happenings.

## 4.4. Embodied actor-networks and journeying in practice

The evidence for each of the three empirical chapters is drawn from and evidenced by insights drawn from observations, doings and affects made in my circulation through taewa economy. I documented my learnings in field notes, photographs and hui minutes<sup>22</sup> and artefacts. These are elaborated upon and buttressed by material from Tāhuri Whenua documents, research projects on taewa and the psyllid, Aunty’s Gardens web-based material, quotes from individuals, and the accounts of third parties. The three journeys represent an engagement of between four and six years. During this time there has been a considerable amount of time spent in *deep encounters*. These consist of attending hui, gardening with growers, interviewing taewa growers, scientists and Māori businesses, and workshops. On 36 occasions, I spent one to five days in the wild, participating in events (i.e. hui), moving things around (taewa, taewa seed, people and ideas), exchanging taewa, and making connections (people, psyllid, taewa). In addition to ‘journeying with’ subjects and objects in the wild, I followed each case via their internet presence (i.e. Tāhuri Whenua’s and Aunty’s Garden’s website, and the psyllid via industry websites including Potato New Zealand, and the Global Potato News) and their emergence in popular and [mainly the psyllid] scientific publications (including, regional and national newspapers, radio shows, television programs).

### 4.4.1. Key human actors: dialogues with people

Table 4.2 outlines the moments, forms and actors with whom (or what) I engaged with the taewa economy. It showcases the days spent in the field and the hui I attended. This elaborates on my encounters with Tāhuri Whenua, Aunty’s Garden and psyllids from earlier research, when I spent approximately fifty days moving around in the wild (FitzHerbert 2009). The actors represented in Table 4.2 are those with whom I have had ongoing dialogues with throughout the wider thesis journey. Each can be considered ‘elite’ as they occupy various positions of power in the taewa economy. Additionally I had numerous short dialogues with taewa growers, members of Aunty’s Garden and scientists at Tāhuri Whenua hui.

**Table 4.2. Key dialogues: ongoing conversations with key people of the taewa economy and their relationality to the three journeys.**

Person	Relationality
Nick Roskruge (NR)	TW: Tāhuri Whenua chairman, Horticultural scientist, taewa grower, grows both old taewa and virus-free taewa, supervises research students, Māra Kai with TPK, Industry, ALMAC, distribution of surplus taewa. AG: member of AG, advisor to project PP: lost crops to psyllid, experiments with different production regimes
Hemi Cunningham & Pita Richardson (The Uncles)	TW: Tāhuri Whenua kaumatua roopu, taewa growers, grow both old and virus-free taewa, AG: members of AG. PP: lost crops to psyllid, experiments with different production regimes
Continued next page	

<sup>22</sup> On multiple occasions I recorded the official minutes of Tāhuri Whenua Hui-a-Rohe and Hui AGM, which were then disseminated to the Tāhuri Whenua collective.

Person	Relationality
Arohanui Lawrence (Hanui)	TW: Tāhuri Whenua executive committee, taewa grower, grows virus-free taewa. AG: Inspiration behind AG, AG member, PP: lost crops to psyllid
Makuini Chadwick (Makuini)	TW: Tāhuri Whenua executive committee, taewa grower, PP: lost crops to psyllid
Aliese Puketapu (Aliese)	TW: Tāhuri Whenua executive committee, PP: taewa & psyllid scientist
Tremane Barr (Tremane)	PP: lost crops to psyllid, TW: gave taewa to Tāhuri Whenua in order to protect old taewa crops (under a guardianship agreement i.e. Tāhuri Whenua will keep them alive until the psyllid can be managed)
Aramanu Ropiha (Aramanu)	AG: KAHC, Founder and manager of AG, TPK, MET TW: member of TW
Tony Shearer (Tony)	TW: Virus-free seed Pākehā grower via contract with ALMAC, other Pākehā seed growers
Phil Gorman (Phil)	TW: Virus-free seed Pākehā potato production manager (ALMAC)
Ben Barber (Ben)	AG: Employee of Aunty's Garden
Simon Lambert (Simon)	TW: TW executive committee
Alby Marsh (Alby)	TW: TW member, agricultural scientist

#### 4.4.2. Key nodes of encounter and exchange and travelling in-between: seeing, doing and learning.

Table 4.3 outlines the in-person encounters, with whom, the location and the artefacts which emerged. These are central nodes in my journeying through and around Tāhuri Whenua (TW), Aunty's Garden (AG), and the potato psyllid (PP). Moving between nodes I would often take with me taewa seed and taewa stories. At nodes I would mediate, translate and exchange ideas, seed taewa, eating taewa, generate (and reveal) connections, sometimes objects, and quite possibly diseases and relations between non-human biological actants (i.e. infected seed taewa). Hui were a central node in each journey, and key encounters at which I was a listener, speaker and collective other. The most intensive period in the wild occurred between 2010 and 2012. As I began full-time employment in 2013 this limited my opportunities to journey, and my encounters became focused on Tāhuri Whenua hui<sup>23</sup>, meeting with Nick Roskrige, and following these journeys in their virtual worlds. Some examples of moving ideas and potatoes include moving taewa seed between Auckland, Taitokerau and Banks Peninsula and Bulls.<sup>24</sup> Most journeys which involved meeting with *the Uncles* included exchanging taewa. I would bring taewa from other taewa/grower encounters and gift these to *the Uncles* (i.e. Uncle Jimmy). On return, *the Uncles* gave me taewa to take on my travels, to either grow/eat myself, or give to other Māori. Each exchange came with a story of the taewa particular provenance, which provided an opportunity to share ideas and knowledge. Hui and marae are key nodes for engaging in each journey and beginning new journeys.

<sup>23</sup> See Appendix A for a detailed illustration of Tāhuri Whenua hui.

<sup>24</sup> See Appendix B for a broad illustration of the movement of taewa between 2009/2011.

In total I spent approximately five months in the field, although when in the office my encounters continued as I followed these actors via the computer and kept in regular contact (via phone and email) with key actors. I visited over ten marae and stayed multiple nights on these Māori spaces. I stayed at the homes of growers, Aunty's Garden organisers and Nick Roskrige on approximately 20 occasions. I attended seven Tāhuri Whenua hui and gave a presentation each time. This provided me the opportunity to talk with 22 taewa growers: Table 4.3. presents the growers, TW & AG officials I had regular on ongoing dialogues - it does not include the other people I encountered at hui, gardens and on travels. At hui, homes and in gardens we always shared a kai – a significant cultural practice of *coming together* and *establishing relationships*. I spent approximately 30 hours in the gardens of growers helping with planting and harvesting taewa. Furthermore, approximately 30 hours was spent in a car travelling with the Uncles, Nick Roskrige and other Tāhuri Whenua members. In terms of taewa, I moved roughly 41 bundles of taewa ranging from a few tubers to 100 kilograms, between sites to different growers and Tāhuri Whenua. Taewa were often given as a koha on in-person encounters, as was kai and stories of my travels – this act of giving helped balance the exchange of our encounters. The encounters themselves generally always took place on Māori grounds. I believe that my effort and commitment to meet with Māori and exchange things were always appreciated.

**Table 4.3. Encounters in the wild from which information was obtained (abbreviations: TW, Tāhuri Whenua; AG, Aunty's Garden; PP, potato psyllids; G, Grower; Sci, Scientist).**

Encounter	Date (D/M/Y)	Who and in what capacity	Location
TW, PP, AG:	26/1/10 – 1/2/10	NR (TW, Sci, AG), The Uncles (G, TW, AG), Hanui (AG, TW), Aleise (Sci, TW)	Palmerston North, Hastings, Bulls
TW, PP	23-24/3/10	NR (TW, Sci, G), Aleise (Sci), The Uncles (G)	Palmerston North, Bulls
TW, PP	8-13/7/10	NR (TW, Sci), The Uncles (G, TW), Aleise (Sci)	Palmerston North
TW	20-21/7/10	Makuini (G, TW)	Paihia
TW, PP, AG	15-19/08/10	NR (TW, Sci), Uncle Jimmy (G), Hanui (AG, TW), Ben (AG)	Palmerston North, Hastings, Bulls
TW, PP, AG (TW Hui AGM)	16-20/9/10	NR (TW, Sci), Ben (AG), Hanui (AG, TW, G), Aleise (Sci, TW), Makuini (G, TW)	Bulls
PP	1-2/12/10	Tremane (G)	Melbourne (Australia)
TW	13/12/10	NR (TW)	Auckland
TW, AG, PP	26/1/11	NR (TW, Sci), the Uncles (G, TW)	Palmerston North
TW, AG, PP (TW Hui-a-rohe)	1-4/3/11	Ben (AG), the Uncles (TW, G, AG), NR (TW, Sci, AG), Aliese (TW, Sci), Hanui (AG, TW), Simon (TW), Alby (TW)	Waitara
TW, PP, AG	18-19/3/11	NR (TW, AG, Sci), the Uncles (G, TW), Hanui (G, AG, TW)	Palmerston North, Bulls, Hastings
TW	18-20/3/2011	Makuini (G, TW)	Otaua
PP, TW	5-8/5/11	Phil (G), Tony (G), Tremane (G)	Christchurch, Methven, Banks Peninsula
TW, PP, AG	29-31/5/11	NR (TW, Sci), The Uncles (G), Aleise (TW, Sci)	Palmerston North, Bulls
TW, PP	18-19/6/11	Phil (G), Tony (G)	Methven
TW, PP	26/6/11	The Uncles (G, TW)	Bulls
AG	27-28/6/11	Ben (AG), Hanui (G, AG), Aramanu (AG)	Hastings, Porangahau
Continued next page			

Encounter	Date (D/M/Y)	Who and in what capacity	Location
AG, TW, PP (TW Hui AGM)		Ben (AG), Aramanu (AG), NR (TW, Sci), Aleise (Sci, TW), Simon (TW), Albi (TW), Hanui (AG, TW, G), Uncles (TW, G)	Porangahau
AG, TW	18-19/10/11	Ben (AG), Aramanu (AG), NR (TW), Uncles (G, TW)	Hastings, Palmerston North
TW, PP, AG (TW Hui-a-rohe)	14-19/2/12	NR (TW, Sci), Aleise (TW, Sci), Alby (TW), Uncles (G, TW), Hanui (G, AG, TW)	Haraki, Taneatua
TW, AG	27-29/2/12	NR (TW, AG), The Uncles (G, AG)	Bulls, Palmerston North
TW, PP	26-27/3/12	NR (TW, Sci), The Uncles (G)	Palmerston North
TW, PP	28-30/5/12	NR (TW)	Palmerston North
TW, AG, PP (TW Hui AGM)	7-8/9/12	NR (TW, Sci), the Uncles (TW, G), Hanui (AG, TW, G), Aleise (Sci, TW), Alby (TW)	Palmerston North, Whanganui
TW, PP, AG	8-10/10/12	The Uncles (G), Hanui (G, AG), NR (TW)	Bulls, Hastings, Palmerston North
TW, PP	20/10/12	The Uncles (TW, G)	Bulls
TW, PP	16/3/13	NR (TW), The Uncles (TW, G)	Palmerston North, Bulls
TW, PP, AG (TW Hui AGM)	31/8/13	The Uncles (G, TW), Aleise (TW, Sci), Simon (TW), NR (TW, Sci), Aramanu (AG)	Palmerstin North
TW, PP	20-21/8/13	NR (TW, Sci)	Palmerston North
TW	3/9/13	NR (TW, Sci)	Palmerston North
TW	12/11/13	NR (TW, Sci)	Palmerston North
TW, PP	26-27/3/14	NR (TW, Sci)	Palmerston North
TW	7/6/14	NR (TW, Sci)	Palmerston North
TW, PP (TW Hui AGM)	27/9/14	Hanui (AG, G), NR (TW, Sci), Uncle Peter (G, TW)	Feilding
TW	3/12/14	NR (TW, Sci)	Palmerston North
TW	16/12/14	NR (TW, Sci)	Palmerston North

My research yielded encounters with things (human and non-human), movements/travel with things (human and non-human) and embodiments (ideas, values and objects). My interpretation focuses on three objects of analysis beyond the encounter, movement and embodiment themselves: exchanges (the sites/moments at which moved); affects or becomings; and artefacts or the products of encounters, movements and embodiments. I recorded data in the form of notes, diary entries, web screen shots and photographs, and the documents shared to me by participants. These were then analysed in relation to their relationality to Tāhuri Whenua, Aunty's Garden and the potato psyllid. Encounters in the field and the data had multiple relationalities. Each encounter generally generated data for each different journey – by which I could see and document the relationalities across the three journeys. Collating this material into narratives involved separating out the journeys into different repositories, whilst noting how and when they appeared in other journeys.

#### 4.5. Projectless journeying: a decolonising methodology?

My journeying generated rich empirical data and allowed me to do an embodied, situated and post-colonial economic geography of the taewa economy. Four particular features of this approach gave me tools with which to discover the empirical and free it to do different work.

### **4.5.1. Situated encounters, shared matters of concern, and engagement on Māori terms**

By being invited, being project-less, meeting in Māori places and sharing a Māori matter of concern I was invited to journey through the spaces of taewa economy and see the actors, relations, values and practices which co-constitute economy and articulate diverse Māori economies with other economies. Furthermore, by taking part and doing stuff for economy and sharing a concern for the future of taewa demonstrated I embraced the shared challenge of keeping taewa it alive. This relationship with taewa made possible a number of encounters and journeys that took me to familiar and unfamiliar spaces, and allowed me privileged views of situated economy. Situated encounters and engagement and being project-less is a form of ethical relationship making. It highlights the ethics of encounter, how it is done, by whom and on who's terms matters for generating meaningful and productive encounters in the wild. Repeated encounters built relationships, in a context in which I could be thrown out at any time - demonstrated by silence and an end to journeying (i.e. Māori would stop talking to me). While my sponsors performed much of this work for me, I had to negotiate my place and (re)gain trust continuously and produce useful research artefacts with which to broker these relationships.

The process disturbed notions of inside – outside. My positionality as a 'student' may have given me a privileged viewpoint. I was not an institutional representative or an expert. Flexibility, empathy, un-knowing and project-less gave me traction in these journeys. While risking the questions of who I was and why I was there, I did not directly approach growers, or delve into questions about their enterprise until I was invited to do so. This may have restricted access to some, but speaking at hui and connections to other growers provided a profile and context in which I was approached. Does this present a decolonising approach to research? Perhaps - I am still here/there.

### **4.5.2. Projectless research: rethinking and redoing 'the project'**

Researching project-less challenges, disrupts and critiques institutional ethics, 'the project', and power asymmetries between 'the researcher' and 'the research participants'. It levels out power asymmetries. My journeys emerged from encounters in the wild. The research was framed and constituted in the wild, allowing me to escape pre-existing categories and expectations. Economy-making could become on its own terms and be read as such. I got to this point by working with Māori on their terms and giving over intentionality to the wild. Encounters in the field were generative of a postcolonial moment. This challenges [participant] action-research where the emphasis has been on performing pre-figured projects according to rules of engagement and purposes set down in institutional worlds. Journeying project-less is perhaps a next step in action research. It takes the idea of hybrid collectives and performative research beyond the project and the bounds of prior theoretical frameworks. In this case, it allowed me to see the importance played by articulations with other economies in Māori enactment of diverse economies. The approach offers a post-colonial approach to working with

and for others. It is probably not for all, or for all action research, but it has decolonising dimensions.

### **4.5.3. Journeying: a generative politics of space-time relations**

Being project-less and freeing myself to circulate opened the research up to other research spaces/research journeys. Journeying has an inherent geography – it relates actors and objects across space and time. As a practice, it is assembling. Moving from case-studies to journeys took the project beyond the snapshot and from measuring to tracing/following. Unlike Cook *et al.* my journeys were not prefigured, but rather emerged in the field, generated deeper encounters and opened up to follow different things (i.e. Aunty's Garden and the Psyllid). I was held to responsibilities generated by the invitation to 'move' with Māori things. The following approach gave me an immediate advantage over others held to similar commitments – it is novel, it connects the familiar and unfamiliar and place and time, and it destabilises the power relations of the measurement and extant categories. While for some this is uncomfortable, for others it is liberating and offers a response to the challenge of how to do social science research in Māori worlds. By documenting and building rich descriptions of the *work* of these actors, institutions and experiments, I am able to be gently critical, indeed certain Māori expect me to be so. Despite the words of prominent Māori scholars who warn this is not your world, perhaps we are entering into a post-Treaty moment where appropriately positioned and responsabilised pākehā might contribute more critical analyses of the points where Māori and other worlds are articulated.

### **4.5.4. Doing and learning economy: enactive practices and learning from learning to be affected**

Enactive practices such as making attachments, engaging in exchange and moving through circuits of exchange lead me to see and experience economy-making. I moved with circulations of ideas, objects and actors which enabled me to see their situatedness, relationality and translation across space and time, and their articulation within and across economies. My journeys highlighted experimentation, uncertainty and the emergence of economy-making, yet also where agency and power were at work at any point. I witnessed and experienced the articulations among different economies by flowing through the nodes at which they came into contact. I moved with and often embodied the objects and ideas that circulated through taewa economy. This was a privileged approach from which to see economy becoming through the circulations and translation and negotiation work of institutions, economic experiments, human subjects and non-humans.

Being there, taking part and moving had effects, but was also affective, both in terms of co-doing and co-learning economy. Seeing and feeling ideas in the wild became significant objects of analysis. For example, by moving with taewa I learnt that journeys do not necessarily end with (or even go to) market exchange and are not contained in single worlds. My experiences, journeys and embodied reflections provide a place to theorise from and talk back

to theoretical ideas. Learning economy through embodiment and affects generated a deeper more situated reading of economy to theorise from.

#### **4.5.6. Final words**

Learning about economy, then, is about learning to see relations, uncertainty, humans and non-humans and situatedness. By journeying, I provide openings into the articulation and circulation of objects through relations and exchanges, openings provided by the open-endedness of the gaze and the uncertainty of unfamiliar encounters as opposed to the closures of the project (the carefully framed gaze and pre-categorised observations). There is a wildness to the journey, one that promises unruly findings and representation but also space for the voices of others and for tales of the unexpected, and one that provides a spatio-temporal account that decentres meta-categories (Fisher *et al.* 2015). Poststructuralist economic geographers highlight this potential (Lewis *et al.* 2015a; Gibson-Graham 2006). They point to the relationality and messiness of economic agency, which Cook and others suggest is opened up by following objects (Cook *et al.* 2011).

‘Journeying with’ invites a care and empathy for the researched that is mandated in post-colonial Aotearoa New Zealand. It enrolls researcher, researched and reader into new knowledge collectives and binds them and unknown others into these collectives. This can stimulate learning to be affected and encourage emotional geographies that search for, meet and learn about the lives of people and others who might be helping them to live their lives; and that explore a politics of possibility for progressive change (Lewis *et al.* 2015b; Cook *et al.* 2011; Fisher *et al.* 2015). Such approaches force geographers to step into their own heads, hearts and bodies as they try to step briefly into those of the people they meet, and with whom they seek to work. Arguably, by learning to be affected they can make it possible for their audiences to do likewise. For Cook (2004), this is precisely the value of following. Wedding these ideas together inspires and gives me the tools to do research differently, produce different knowledge that is situated, relational and enactive, and narrate difference differently (Fisher *et al.* 2015). Paying attention to the wild (Carolan 2013b) encourages me to make a virtue of unanticipated encounter and open journeys, journeys that themselves become objects of analysis informed by being in the wild.

This approach is a form of enactive research in the wild situated by others. In journeying I engage in on-going dynamic encounters and exchanges of objects and ideas and enact the emergence of taewa economy. Some immediate evidence of the enactive potential is apparent in the new journeys that opened up from putting myself in motion. This attention to following agencements points to the potential for ethnography in economic geography, echoing Ouma’s (2012) call for ethnography to better grasp marketisation and economisation.

This approach to knowing taewa-economy and economisation is more than situated storytelling. It offers an approach to unfix economy and to come to know and do it differently. If indeed the economisation and diverse economy project is to understand and do economy

differently it requires letting go of predetermined categories and knowledge production approaches that project these onto the world. The challenge is to let the wild do the assembling of our encounters with economy [and I propose to take long project-less journeys] and provide a platform to theorise economy away from the empirical. We must not be content with smooth stories that recreate global hegemonies, but seek to reveal contradictions and contestations (Larner 2011). As Gibson-Graham has taught us, the aim is to show that things could have been otherwise because they often already are different. Likewise by extended journeying, being project-less and open to the wild presents an opportunity to better engage in post-colonial geographies. Telling stories from journeying is theory making. It allows for simultaneously observing things in motion and observing on the move – for both situated mobile knowledge and mobile situated knowledge (see Prince 2010, 2014).



## Chapter 5: Tāhuri Whenua and the expansion of taewa circulation: situated assemblages, collective experimentation and articulation

Tāhuri Whenua (the National Māori Vegetable Growers Collective) is a pivotal institution of the taewa economy. Nominally a grassroots organisation of vegetable growers with strong ties to key state agencies; it is an assemblage of taewa [and other Māori vegetables], Māori growers, gardens, scientists, growers' organisations, and State and hapū rationalities, practices and investment. As such, the organisation narrowly writ is both assemblage and assembler, a key enactor of taewa economy. Tāhuri Whenua's work involves maintaining, stabilising and expanding this economy. This chapter illustrates how it does as a network and an initiator of projects through collective experimentation, situated knowledge production and articulation with other actors (and economies). The collective mediates the movement of taewa into diverse Māori economies, and constructs and informs various forms of taewa exchange. Journeying with this institution makes it possible to see the institutionality of economy-making and the expansion of taewa circulation in Aotearoa New Zealand. The Tāhuri Whenua journey provides a case to understand the *work* of institutions for making economy through collective experimentation, situated assembling and intervention, and the articulation of diverse relationships.

This chapter is divided into a set of sub-journeys with Tāhuri Whenua. Firstly, Tāhuri Whenua is introduced: how it was created, who is involved and its aspirations and role within Māori economy. Then, I outline the encounters and journeys of my knowing of Tāhuri Whenua. The next four sections discuss particular journeys. The first outlines their role in enacting situated knowledge production for taewa economy. The second journey documents the circulation and exchange of taewa by Tāhuri Whenua and its members. Thirdly, this journey presents the injection of new taewa into economy. The fourth section discusses the articulation work Tāhuri Whenua does to create opportunities for Māori. Lastly, an interpretation of the subsequent sections discusses what these mean for Tāhuri Whenua, articulation and making-economy.

### 5.1. Tāhuri Whenua: an outline

Tāhuri Whenua is a growers' collective established to promote and support Māori horticultural interests in Aotearoa/New Zealand. Formalised as an incorporated society in 2004 and registered as a not-profit charitable trust in 2007, it has taken on a set of economic development roles. Tāhuri Whenua translates as *returning to the land*. The collective emerged from the National Taewa Project (NTP) in 2001 led by Nick Roskrige (NR) and numerous Māori growers and elders he met during the research. The project brought together growers, marae, community groups and academics around shared matters of concern (i.e. vegetables, traditions, Māori land, research, Treaty of Waitangi, investment, future generations etc.). At the core of

these concerns lay the decline of Māori vegetable cultivation and the lack of representation for Māori horticultural interests. A series of hui were held throughout New Zealand to discuss how to revitalise Māori vegetable growing, in particular the taewa. Tāhuri Whenua was established as a collective space, for supporting and promoting for Māori horticulture.

### **5.1.1. 'A place for people not politics' (Roskrug 2012)**

Tāhuri Whenua is essentially about gaining a Māori voice and Māori perspective in the horticulture industry and more specifically in the vegetable growers sector. The voice needs to represent Māori from all aspects of horticulture including production, research, advisory services, support industries and marketing (NR, inaugural Chair Report, 2004).

Tāhuri Whenua exists to promote, support and represent Māori interests in the vegetable economy and encourage the production of Māori vegetables. It has four focus areas: crop production, marketing, research, and training and education. Expressed objectives include ensuring Māori have access to relevant resources; facilitating Māori participation in research and development; supporting Māori Business Development through the provision of advice and information; promoting horticultural learning and experience to all generations; and promoting an awareness of the Treaty of Waitangi among all actors in the horticultural economy. Tāhuri Whenua does not prescribe how or what growers should grow or what they should do with their produce. Rather they promote and encourage people *back* onto their land and support all growing activities and practices, whether they be small-scale, large-scale, commercial, marae, family, organic, conventional, or traditional. The key goal is to get Māori back to growing Māori vegetables (and any other horticultural produce). As founder NR explains, Tāhuri Whenua is a collective to 'grow Māori confidence to be able to grow kai for themselves and beyond ... [the first step is] ... getting people to grow kai, the second is to get Māori to save their seed (Roskrug, AGM, 2012). The organisation remains vibrant and committed to expanding its geographical presence and influence by hosting hui and workshops at different locations. It has consolidated itself as the face of Māori horticulture.

### **5.1.2. A Collective**

Members of Tāhuri Whenua are typically small producers of Māori vegetables and mostly Māori. They include individuals, hapū and iwi groups, schools, scientists and students. Membership is well balanced by gender and age. There are currently over 330 financial members; although this can be extended significantly as marae and/or whānau memberships represent multiple people. Membership is by minimal subscription with set category fees per annum: kaumatua/kuia (elders), \$10, Student \$10, Individual \$20 and Group \$50. Membership has increased consistently since the organisation was formed across Aotearoa. The collective has an elected executive committee, the members of which represent the major regions in New Zealand. The executive is overseen by a committee of Māori elders, who also come from different regions. All work is voluntary.

Tāhuri Whenua has developed around a number of key relationships. These include relationships with Māori communities, state agencies, research institutes, and various actors in diverse vegetable economies, including marae from across Aotearoa, organisations such as the Māori Women’s Welfare League and the National Kohanga Reo Trust, state agencies such as Te Puni Kōkiri, the Ministry of Health, and District Health Boards, and universities and CRIs. These relationships have helped Tāhuri Whenua to become a central actor in Māori horticulture. Tāhuri Whenua has worked relationally to collectivise Māori growers, generate research, mediate and stabilise flows of taewa (and vegetable) seed, and expand and deepen the circulation of taewa. Hui, or open and culturally mediated meetings, are the life force of this work and a pivotal space in which it takes place.

Hui are deeply democratic and richly situated meetings. Growers share stories, research is discussed, and knowledge and seed circulate, and ‘everybody is welcome’. Nearly all Tāhuri Whenua hui occur on marae and are governed by the protocols of the marae. They involve formal and ritualised welcomes of guests onto the marae, protocols that allow all to speak and to be heard without interruption, hospitality rituals that include the exchange of food and gifts, and rituals of departure. They open and close with a karakia (prayer). Tāhuri Whenua hui take various specific forms, including the collectives’ annual Hui-a-rohe, the Annual General Meeting, Harvest and Hangi, End of Year Hangi, numerous garden workshops, and special invited hui such as hui taewa at various marae. The Hui-a-rohe (a three day event) and AGM (one day) are held each year and hosted across the regions. They attract fifty or more attendees and include field visits of local gardens and cultural economic projects and are co-organised between the collective and the host marae to cultivate local significance. They are ‘funded’ by in-kind contributions from members and marae groups, and support sourced from Massey University, Te Puni Kōkiri, Bio Protection and a host of other organisations. Figure 5.1 illustrates the geographical distribution of hui between 2004 and 2011. Constructed for this thesis with NR, the map itself has been distributed at hui (i.e. AGM 2011, Hui-a-Rohe 2012, AGM 2012, Hui-a-rohe 2013, AGM 2013) and has become a performative artefact in the taewa economy, providing an object of reflection around which stories have been told and futures plotted.

**Figure 5.1 The distribution/diffusion of Tāhuri Whenua (Next page)**

# Tahuri Whenua 2003 - 2011

## Aotearoa – New Zealand

### National Maori Vegetable Growers Collective

Resourcing / Promoting / Facilitating / Supporting / Advising / Informing



Te Kuiti – Tanehopuwa marae Hui-a-mahi, Feb 2005



Otorohanga – Otewa marae Maori Expo, Sept 2004



Otorohanga – Tekeete marae AGM, Sept 2003



Otaua – Te Rau Tawa-hui marae Hui-a-rohe, Feb 2005



Tauranga and Torere Workshop series, Apr 2009



Peru – Machu Picchu Hikoi ki Amerika ki te Tonga, Jul 2009



Te Kuiti Te Wananga o Aotearoa AGM, Sept 2005



Ngati Tama – Pukearuhe marae Hui-a-rohe, Mar 2011



Owae marae – book launch Nga Porearea me nga matemate o nga mara taewa Mar 2011, (Photo Taranaki Daily News)



Ruatoiki – Taurau marae Hui-a-rohe, Mar 2009



Tikiti – Kaiwaka marae, Hui, Dec 2007



Waitara – Owae marae Hui-a-rohe, Mar 2011



Rata – Ngati Hauiti marae AGM, Oct 2009



Patea – Wai-o-Turi marae Hui-a-rohe, May 2004



Rata – Ngati Hauiti marae Hui, Oct 2007



Bulls – Parewahawaha marae Hui-a-rohe, Feb 2006



Bulls – Parewahawaha marae AGM, Sept 2010



Bulls – Parewahawaha marae Ki tai, ki uta, Jan 2005



Linton – Linton Camp School Maara hui, Oct 2005



Hastings – Waipatu marae Aunty's Garden May 2011 (Photo Paul Taylor)



Palmerston North – Takaro Takaro School Maara hui, Oct 2005



Heretaunga – Planting hui With Hemi Wihongi (Te Pu Hui Rangitangi Trust) Nov 2009



Wellington – UN Assoc. Year of the Potato Dinner Oct 2008



Massey University – Te Putahi-a-Toi marae AGM, Sept 2006



Massey University – Under the Sun International Travel Show Apr 2008



Wellington – Te Papa marae Matangi Lectures Jun 2005 and Jun 2007



Massey University – Annual Harvest and Hangi Since Apr 2003



Kakanui Hui, May 2006



Marahau – Wakatu Inc. Hui-a-rohe, Feb 2008



Massey University – FCU Hui, Jul 2003



Massey University – Radio NZ Te Ahi Kaa, Apr and Jun 2011 (Photo Justine Murray)



Otautahi, Hui, May 2006



Blenheim – Omaka marae Hui-a-rohe, Feb 2008



Murihiku (Invercargill) Hui, May 2006



Kaikoura – Takahanga marae Hui-a-rohe, Feb 2010



Lower Hutt – Waiwhetu marae Hui, Sept 2009



Masterton – Te Heru a Rangi marae Hui, Aug 2009



Pakipaki – Hongarea marae Hui-a-rohe, Feb 2004



Porangahau – Rongomaraeroa marae AGM, Aug 2011



Wellington – Te Papa marae Matangi Lectures Jun 2005 and Jun 2007



Tāhuri Whenua

www.tahuriwhenua.org.nz

### 5.1.3. A history of projects

Taewa has been at the centre of Tāhuri Whenua's work to promote and support Māori horticulture. In the National Taewa Project, it became evident the taewa acted as a catalyst to spark interest and conversations among many Māori who wished to re-establish the production of traditional Māori vegetable crops. Tāhuri Whenua is largely responsible for the resurgence of taewa in New Zealand during the last ten years. It established a taewa seed bank and annually plants trial crops at Massey University, Palmerston North. These taewa are then redistributed to interested growers and to the various marae where hui are hosted. One of the first redistribution projects was the spud-in-a-bucket project, through which Tāhuri Whenua provided taewa seed to schools and educated children to grow taewa in buckets. More widely, it offered taewa to different Māori groups, which 'invested' the seed in diverse economies with a mix of aspirations, practices and values from rejuvenating seed lines, educating children, providing food to take home, underpinning marae-based economies, or even experimenting with commercial opportunities.

As Tāhuri Whenua became more entrenched it developed more formal projects which drew on State investment and partnerships with outside institutions, from developing crop knowledge to crop management and commercialisation. Between 2005 and 2008, Tāhuri Whenua worked with Kai Tech Charitable Trust in a Sustainable Farm Funded project (SFF Project number 05/053), to develop a 'best practice' guide for the cultivation of taewa (see Roskrige *et al.* 2010). Between 2005 and 2006, Tāhuri Whenua investigated research and development opportunities in partnership with Crown Research Institute Plant and Food Research (PFR) (see, Walsh 2006). In 2006, Tāhuri Whenua and a Waikato University student (with the support of Waikato University Management School), investigated the commercial viability of exchanging Tāhuri Whenua's four main cultivars (i.e. Moemoe, Tutaekuri, Huakaroro and Karuparera) in capitalist circuits of exchange (i.e. supermarkets) (Yu 2006). Also in 2006, they partnered with National Bio-Protection Centre and conducted blight trials in taewa and sought to produce a bank of virus-free seed. Between 2008 and 2011 Tāhuri Whenua partnered with PFR and the University of Auckland in the 'Best of Both Worlds' project funded by MoRST. The project investigated opportunities for integrating western crop management practices and Māori traditional gardens in the East Cape, Hastings and Rangitikei regions (Kerckhoffs 2008; Kerckhoffs & Smith 2010). Whilst not explicitly related to crop management, my MSc research on the circulation of peruperu and exchanges practices of growers was funded by this project (FitzHerbert 2009). Other projects have included Sustainable Farming Fund projects (for example, SFF Projects 11/060 and L11/154).

Together with its hui-centred work these formal projects have seen Tāhuri Whenua secure relationships with research institutes and consolidate itself as a secure and trusted Māori organisation within the New Zealand horticulture. It has demonstrated project ownership, the co-production of knowledge among members, working relationships between growers, community trust, and geographical reach. It has proven to be particularly durable for a

development agency and for a Māori organisation. Tāhuri Whenua has situated itself as a mediator between science and growers ensuring that knowledge to support Māori growers' interests is shared and more tacit knowledge is fostered in place. In recent years, Tāhuri Whenua has engaged in a concerted effort to broaden their focus to all Māori vegetables (e.g. kamokamo, kumara, poroporo, puha and kōkihi) and has established itself as the government's 'preferred Māori organisation' for the investment of research funds (Roskruge, Hui-a-rohe, 2012). As an institution of taewa economy it works to stabilise and expand, enrolling participants from across Aotearoa, developing partnerships with multiple state and community organisations, co-producing knowledge and fostering opportunities for Māori, and stimulating investment. The next sections trace the taewa economy and its expansion from my encounters and journeying with Tāhuri Whenua and its various practices from situated knowledge production to taewa exchange, putting new objects into circulation, and brokering new relationships.

## **5.2. Knowing Tāhuri Whenua: encounters and journeys**

My account of Tāhuri Whenua is generated from my personal encounters and journeys with the collective. These include personal attendance at hui, conversations with Tāhuri Whenua executives, members and growers, my own participation as a member, and secondary sources (i.e. newspapers). My journey started in 2009 when I attended their annual Hui-a-rohe in March 2009 (Ruatoki, marae). Since then I have become further embedded in the collective as I embodied membership and took part in subsequent projects and built relationships with members. The kaumatua and kuia, executive members and members of Tāhuri Whenua, inspired and steered my participation and research. This gives particular value to my journeying as it took me into and through spaces and 'internal' workings of taewa circulation and exchange that I may not have been able to access as an outsider (researcher and Pākehā). I have come to know Tāhuri Whenua through encounters in hui and grower's gardens, my own journeys and following the circulation of objects and actors. My encounters with members were embodied as a co-member fellow grower, as well as a researcher. This gave me extraordinary access to other taewa growers (i.e. Tremane Barr, Gianni Principe, Tony Shearer, Ngahau and Debbie Davis, Rueben Taipari Porter and Heni Short), but also made me an embodied circulator, translator and mediator of information, ideas, aspirations and taewa among actors, as well as sometimes an agent of the collective. My relationship is ongoing and I continue to be a member.

Table 5.1 presents a genealogy of my journeying with taewa; that is, my research project as research object. It outlines and makes visible the actors, my encounters (and travels), and the learnings from these moments. Each journey is a 'journey through' and represents a particular set of encounters in place/places with the assembling of economy over the course of my research as knowledge, objects and actors circulated through time and place. Following my own journey through these circulations, which represent journeys for other actors and journeys in themselves, opens up for me the assembling of economy through the work of Tāhuri Whenua and its various constitutive actors, imaginaries, aspirations, relations and movements. It allows

me to see Tāhuri Whenua as co-constitutive with (and of) taewa economy by enacting new emergences, journeys and assemblages as old stuff is cut away. Each journey offers a discrete story of economy-making. These journeys are different to my previous research, whereby I sought to move and investigate the nodes of situated knowledge production, circuits of exchange and points of articulation with other economies and actors. I trace the relations and relation-making of Tāhuri Whenua to others. These journeys accentuate Tāhuri Whenua's institutional role in making taewa economies. The accounts are chronologically structured. My analysis focuses on collective experimentation, assemblages, relationships, situating practices and articulation with others. These demonstrate the role (acts) of Tāhuri Whenua to mobilise and stabilise taewa (and Māori vegetable) economies. The table allows the reader to see the project as constituted as parts, it's a genealogy, and I focus in on the new journeys, emergences, happenings.

**Table 5.1 The thesis project: A genealogy of journeying with taewa**

Time	Journeying	Actors	Encounters	Co-learnings (affects)
2008-2014	Situated Knowledge production (Knowledge in circulation)	Aleise Puketapu (AP), NR, Massey students, PFR, Growers, Myself	Hui, dialogues with executives, students, scientists; TW webpage; Chairman's report	Knowing is situated in: the wilds, an ethics of care and inclusivity, a spirit of experimentation
2011-2014	Taewa circulation and exchange (taewa in circulation)	Growers, NR, the Uncles, Hanui, Makuini, Myself	Hui, growers gardens, cars, dialogues with growers, storehouses, NR's office	A Māori economy: taewa as extension of identity, cultural protocols of/for exchange; markets barely mentioned; numberless; exchange and circulation made visible in/by cultural practice
2008-2014	Articulation with other economies: (virus-free seed, commodities, money in circulation)	NR, The uncles, Makuini, ALMAC, Pākehā potato growers	Hui, dialogue with NR (his office and home); commercial potato fields; Radio NZ; Chairman's report	Shifting potato worlds: new meanings, mediations as things leave/re-enter Māori worlds; mixed protocols of exchange; re-assembling taewa economy; visibilising/stabilising economy
2010-2014	Introducing stuff: (ideas, objects, actors in circulation)	NR, PFR, TPK, Growers, AP	Hui; following objects; dialogue with TW members/execs; Chairman's report	Rebuilding relationships; assembling new stuff, resources, relations; resituating things; renegotiating and re-evaluating with others.

### 5.3. Journeying with knowledge production: situatedness and experimentation

*Grower: Nick, is taewa the name for all spuds?*

*NR: To Taranaki and Atiawa iwi taewa means old potatoes and riwai new potatoes ... other iwi across Aotearoa have different names (for Māori potatoes), such as parareka in the East*

*Coast, riwai in the South Island and Hawke's Bay, and peruperu in Taitokerau (Auckland – Northland) ... an earlier publication claimed South Island Māori used the name mahetau as the generic name, this is wrong it's a varietal name ... botanically taewa (Māori potatoes) belong to a sub-family of potato that is different to Pākehā potatoes'.*

This exchange between a Māori potato grower and NR occurred at the Tāhuri Whenua AGM mid-way through my project in 2012. NR takes the opportunity to outline the significance of the naming of taewa and to work through some of the findings of his research. The exchange demonstrates the partial and uneven knowledge of taewa across the Māori world, and Tāhuri Whenua's work to even-out, co-produce and share situated knowledge amongst Māori. The wider exchange allowed NR to outline the diverse matters of concern in Tāhuri Whenua's research work, its findings, the involvement of research partners, and how knowledge is being produced and given affect in the taewa economy. In this section, I explore how knowledge of taewa has been co-produced and resituated in diverse taewa economies through such exchanges.

### **5.3.1. Experiments for better knowing crops and production**

Tāhuri Whenua has initiated a number of research experiments to do with the production and cultivation of Māori vegetables. Many of these have been facilitated by Dr NR and his connection to Massey University, including various post-graduate projects like mine. With no paid staff, they currently work on an ethos of one or two projects at a time despite the breadth of projects that they are able to imagine themselves and the numerous expressions of interest they receive from other research institutions. Whilst they mobilised a number of market projects in their earlier years, Tāhuri Whenua's more recent engagement with research has centred on the establishment and management of Māori gardens. Sustainability has been an enduring theme, partly because it plays to the research funding environment of recent years, and partly because it allows for a dialogue between garden and market focused knowledge production – between market principles and hapū protocols. Tāhuri Whenua has developed a set of Sustainable Farming Fund projects in which it controls investment and the knowledge produced. By subcontracting research elements to Massey University and Plant & Food Research, it seeks to protect and retain control of traditional knowledge, direct research priorities, and ensure a rich co-learning among hapū and growers. Currently the executive committee is discussing research protocols that will extend these concerns.

Most Māori grow small gardens and do not have the option to move elsewhere. Small plots can be prone to the build-up of disease, pest invasions and nutrient depletion, such that sustainable environmental management, fertiliser and pesticide use, and yield potential are crucial questions. The challenge, as Tāhuri Whenua member and Plant and Food Māori Business Leader, Alby Marsh recognises, is that 'it is difficult to grow spuds without pesticides' (Marsh, Hui-a-rohe 2012). With the arrival of psyllid (see Chapter 7) 'being completely organic is not really an option any more'. Tāhuri Whenua sought and received Sustainable Farming Fund investment for a project focused on sustainable crop rotation and pest management practices

for Māori growers on small land holdings (SFF Project number 11/053). It contracted Marsh and fellow member (and PFR scientist) Aleise Puketapu to undertake the research, a three year project involving various crop experiments (i.e. crop rotation, agrichemical use, traditional management, and biofumigant crops such as brassicas). The trials will be at three sites, Ohakune, Palmerston North and Blenheim, chosen to replicate typical taewa gardens. The research has investigated options for Māori growers to grow taewa in the presence of the psyllid – to enhance resilience to the pest and other diseases, reduce the use of pesticides and fertilisers, minimise production costs, and support growers who cannot move elsewhere. It has created widespread interest in the potato psyllid and blights (see Chapter 7). Results to date suggest that under natural crop regimes the psyllid will destroy taewa crops, and that while a limited agrichemical regime may offer some protection, it is expensive, may only be effective at one of three Psyllid life stages, and the psyllid will adapt within three or four applications. However, the research has shown that planting earlier or later may restrict the damage done by psyllids and that better-sized and healthier seed improves the chances that the plant will produce some taewa in the presence of psyllid.

In another project, Massey doctoral researcher Zirsha Wharemate has sought to identify the nutrients in the four main taewa cultivars (karuparera, moemoe, tutaekuri and huakaroro) and document common practices of cooking and eating taewa. The aim is to educate and promote taewa cultivation and better ways of incorporating taewa into healthy diets and cooking and eating practices. Among other insights, Wharemate discovered that tutaekuri contains higher levels of antioxidants than other potatoes, and eating cold, pre-cooked taewa is better for people with diabetes.

In 2013, NR and I proposed a project called ‘Kete o te Tāhuri Whenua’ to a special SFF round of investment, Sustainable Farming Fund Māori Agribusiness Application (application number M12/151). The experiment sought to explore marketisation opportunities for Tāhuri Whenua members and their Māori vegetables (including, taewa). Tāhuri Whenua was framed as a collective of Māori horticulturalists with aspirations to exchange Māori vegetables. The proposal was to collaborate with Ngāti Porou on a similar project involving Tāhuri Whenua members to build iwi productive capacity by co-operative growing of Kumara, Riwai and other crops (Taiapa *et al.* 2011). Neither project was funded.

### **5.3.2. Enacting experimentation: hui and documentary artefacts**

Tacit knowledge brought into new places by members is shared among the collective at hui alongside new knowledge generated through and at the end of experiments and projects. Students, executive members, collective members and scientists each speak on the marae, where speakers are answerable to the collective who seek insight into how to support their gardens. The forum is open and anyone can say (ask) what they want. The presentations are affective. In 2012, Aleise’s update on her psyllid research encouraged a wide ranging discussion about possibilities for organics and implications for their own practices. Traditional practices were re-awoken as a solution to the challenge of growing taewa earlier to thwart the psyllid,

with one grower explaining how judicious use of sands and stones to capture heat might allow growers to plant taewa earlier in the season (hui-a-rohe 2012). My own documenting of taewa production and consumption led other members to commit to extending their practice, while Zirsha's accounts of the various ways to cook and eat taewa were welcomed as guidance for healthier ways to prepare taewa (Hui-a-Rohe 2011, AGM, 2012).

Hui are supported by the production of a number of publications, authored by NR and others with Aleise and Turi McFarlane. Before each book is published NR invites members to comment on the book in draft form (i.e. Hui-a-rohe, 2012). Upon book launch each book receives a karakia. Books cost \$20 for members or \$25 for non-members, with proceeds going toward the next publication. Published books include:

- *Nga porerea me nga matemate o nga maara taewa: Pests and diseases of taewa Māori potato crops* (Roskrug *et al.* 2010). The book was produced for growers and designed to be used in the field (i.e. it is a copper spiral bound book, 'it won't rust' – Roskrug 2011, Hui-a-Rohe, Owae marae). The book contains a number of sections: Te mauri o nga taewa; traditional crop management approaches; beneficial organisms; insect pests; other pests; viruses; fungal diseases; bacterial diseases; physiological disorders; a glossary of both Māori and scientific terms; and a Māori planting calendar. Over 1000 copies have been sold to date (Hui-a-rohe, 2012). The National Kohanga Reo Trust has purchased a number of copies, to be distributed to schools. A similar book for kumara will be published.
- *Tahua-roa: Food for you visitors. Korare Māori: Māori green vegetables*. This book documents twenty-five Māori green vegetables, in relation to what they are, and their cultivation and use. This book has sold over 1000 copies (AGM, 2014).
- *Rauwaru: The proverbial garden. Ngaweri: Māori root vegetable their history and tips on their use* (Roskrug 2014). The book has a section on taewa which discusses their whakapapa, botanical status, contemporary status, culinary uses, and the language of the taewa, which introduces plant specific Māori terms applied to potatoes.

The collective also releases taewa production notes to its members. These contain information and recommendations on: seed (i.e. thirty to sixty grams, good colour, undamaged skin, do not use imperfect tubers), storage (i.e. somewhere cool, dark and dry) and pre-planting advice (i.e. they should be warmed outdoors in the sun several days before planting); planting practices (i.e. crop rotation, fertiliser use, ideal soil pH, time, depth to plant tuber, mounding soil, and weed management); crop management (i.e. water, fertiliser, pest control, disease control); and harvesting. It has also produced taewa identification pamphlets, which show pictures of the main taewa cultivars, and also suggest best cooking practices for specific cultivars and how well they store. Additionally they have produced a Māori vegetables calendar (Māori lunar calendar), which sold out within a few months of its launch. The Department of Internal Affairs and the Environmental Risk Management Authority bulk purchased these calendars, which are now in use at their respective offices. These various publications circulate around and help to assemble the taewa economy. A number of the growers I have encountered

on my various journeys possess these objects and put them to use. The books contribute to taewa economy as well as documenting current knowledge of these crops. By using Te Reo Māori<sup>25</sup> and recovering old taewa phrases that have had minimal use in more recent times, they are rebuilding an indigenous knowledge and economy.

Experimentation in knowing and doing taewa mediated by hui is very much an enactive and co-learning practice. Research is conducted by members of the collective under collective protocols, although it brings others and external investment into the circulation and situation of taewa knowledge. The marae is a central node for this economy, where matters of concern are raised, framed and discussed, knowledge is co-produced, members learn to be affected, others are situated into the collective, research is embedded in collective concerns, economy is imagined and initiated, and growers and researchers are held accountable. It is in hui and on the marae that ideas and objects of knowledge circulate and do *work* in terms of stabilising and expanding economy.

## **5.4. Journeying with taewa: actors, nodes and exchanges**

This section presents the exchange and nodes of taewa exchange for Tāhuri Whenua and a number of its members. It describes the circulation and exchange of taewa from Tāhuri Whenua and three of its members, paying attention to the nodes and journeys taewa travelled to and from these actors. The section reveals diverse taewa exchanges in which *markets* barely ever appear. The exact volume of taewa in circulation and exchanged is numberless, but the accounts demonstrate taewa is moving and being exchanged, and registers these movements from Māori accounts.

### **5.4.1. Institutionalised exchange:**

Tāhuri Whenua is a critical node in the circulation of Māori vegetables. The collective grows taewa trial crops, which are then redistributed to the collective and to other collective projects as seed (i.e. they provide schools with seed for the spud-in-a-bucket project). They also maintain New Zealand's only seed-bank at Massey University, which provides seeds for community cropping. In this way, Tāhuri Whenua has become kaitiaki for a number of taewa cultivars, some of which have been donations and others from Māori who want to protect their seed-lines. For example, in 2011, a member of Ngāi Tahu asked me to take a sample of two cultivars back to Tāhuri Whenua, to protect them against the threat of the potato psyllid. The person gave me one-kilogram of the remaining of three-kilograms of their seed to take back with me to Palmerston North.

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<sup>25</sup> Māori language.

Taewa is widely exchanged in, through and by Tāhuri Whenua. Table 5.2 documents these exchanges over a four year period<sup>26</sup>. They show taewa moving out from and back to Tāhuri Whenua, and highlight the circulation of established as well as new varieties of taewa. These taewa are a mix of the virus-free seed and leftovers from the Massey trial. Figure 5.2 reveals the movement of taewa from (and sometimes to) Tāhuri Whenua to Māori gardens. Figure 5.3 is a poster NR and I developed for Tāhuri Whenua as an artefact to disseminate to members. The poster emphasises the movement of taewa and have themselves become important artefacts in the circulation of taewa, the development of Tāhuri Whenua, and the taewa economy itself – it has become an *agent of circulation and an affective artefact*.

**Table 5.2 Institutionalised taewa exchanges – from Tāhuri Whenua to Māori**

Date	Location	Quantity	Varieties	Enterprise
2008	Wanganui	15 seeds	1	Unknown (see footnote 19)
	East Coast	48 seeds	4	Unknown
	Feilding	Sample	Sample	Unknown
	Ruatoria	N/A	1	Unknown
	N/A	10 kg	Mixed	Unknown
	N/A	1 kg	Mixed	Unknown
	Waitotara	2 kg	2	Unknown
	Napier	2kg	3	Unknown
	Hastings	4 kg	Mixed	Unknown
	Kaikoura	4 kg	4	Unknown
	Palmerston North	'few'	1	Unknown
	Raetihi	Sample	Sample	Unknown
2009	Pukekohe	80 pieces	4	Unknown
	Feilding	3 kg	3	Hatu Paora College
	Palmerston North	3 kg	3	Unknown
	Invercargill	4 kg	4	Unknown
	Palmerston North	3 kg	3	Massey University (research)
	Wanganui	3 sacks	3	Unknown
	Palmerston North	10 pieces	1	Massey University (research)
	Whakatane	4 kg	2	Unknown
	Hamilton	50 pieces	1	Unknown
	Whanganui	6 kg	1	Unknown
	Palmerston North	19 pieces	1	Kohanga Reo
	Blenheim	1.5 kg	3	Unknown
	Hastings	2 sacks	2	Plant & Food
	Kaitaia	60 pieces	1	Te Kura Kaupapa
	Hawkes Bay	50 pieces	1	Otane Primary School
	Waiheke Island	80 pieces	1	Waiheke Kindergarten
	Invercargill	50 pieces	1	Southland Adventist School
	Bluff	34 pieces	1	St Teresa's School
	Cromwell	185 pieces	1	Goldfields Primary School
	Wairarapa	2 kg	2	Unknown
	Rotorua	1.5 kg	3	Unknown
	Hastings	1 kg	1	Unknown
	Oparure	5 – 10kg	1	Oparere School
	Blenheim	380 pieces	1	Unknown

Continued next page

<sup>26</sup> Nick Roskrige provided me with the *logged* exchnages of taewa. The list does not capture all exchanges, but he believed it is a fairly representative snapshot. The *unknown* enterprises are due to detailed record keeping. Nick suggested these would include schools, kaumatua and kuia gardens, marae gardens and whānau gardens.

Date	Location	Quantity	Varieties	Enterprise
	Kaikoura	'a few'	1	Unknown
	Gisborne	220 pieces	1	Unknown
	Ruatoki	2 kg	1	Unknown
	Auckland	1 kg	2	Unknown
	Kakanui	250 pieces	1	Unknown
	Palmerston North	'a handful'	2	Massey University
	Waitakere	'a few'	1	Waitakere City Council
	Whakatane	'a few'	2	Unknown
	Palmerston North	'a few'	1	Ministry of Education
	Rotorua	'a few'	1	Unknown
	Palmerston North	1 kg	1	Massey University
	Tainui	Half a sack	1	Iwi
	Not specified	2 kg	2	Plant & Food
	Hawke's Bay	120 pieces	1	Pukehou School
	Whanganui	10 kg	2	Unknown
2010	Ohai	N/A	1	Ohai marae
	Wanganui	N/A	1	Central Tree Crops Research Trust
	Auckland	40 kg	3	Auckland Museum
	Palmerston North	6 kg	2	Unknown
	Dannevirke	20 kg	1	Rangitane ki Tamaki nui a rua
	Ohakune	40 kg	3	Unknown
	Levin	N/A	1	Unknown
	Palmerston North	24 pieces	3-4	Unknown
	Dunedin	100 pieces	1	Unknown
	Palmerston North	20 kg	1	Kohanga/Kura Kaupapa
	Picton	N/A	N/A	Waikawa marae
	Canvastown	N/A	N/A	Ngāti Kuia
	Marlborough	N/A	N/A	Unknown
	Kaikoura	N/A	N/A	Takahanga marae
	Taranaki	N/A	N/A	Kairau marae
	Hastings	N/A	N/A	Kohupatiki marae
	Ruatoria	N/A	N/A	Te Rūnanga o Ngāti Porou
	Auckland	300 kg	N/A	Unknown
	Longburn	N/A	N/A	Unknown
	Taranaki	N/A	N/A	Te Atiawa
	Waitara	N/A	N/A	Taranaki kaumatua

These tables focus attention on taewa that circulate through formal Tāhuri Whenua channels, but exclude two further circuits of exchange through Tāhuri Whenua: gifting and marae exchange. Tāhuri Whenua gifts a considerable amount of taewa to members, marae (who host Tāhuri Whenua hui) and other Māori. The taewa is the surplus leftover from their crop trials at Massey University. Gifts can be significant. At the 2011 AGM, Tāhuri Whenua gifted twenty-four kilograms of taewa to the host and host marae (Rongomaraeroa marae). Then at the 2012 Hui-a-rohe, they gifted fifty kilograms of tutaekuri to Hanui (who is discussed shortly). She had asked for \$1000 worth of seed to plant a crop, but there was none left other than what was offered, which was given to her free. This seed moved from Palmerston North, to Tauranga and then Hastings. For the 2012 AGM in Whanganui, I arrived in Palmerston North a day early. Here NR asked me to 'put some taewa in the boot' to take to growers: two fifty-kilogram sacks, which would go from our boot to another boot at the hui. One went to Hanui (to be planted in Hastings), the other to growers in Taneatua. Additionally ten kilograms of seed went to a member's Aunty, who requested these be delivered directly because 'you can't trust

those others'<sup>27</sup>. This practice of giving seed taewa is an established practice at Tāhuri Whenua's annual hui and workshops, and gifts are also given upon meeting interested Māori in other encounters.

Marae visits and hui involve other forms of exchange that place seed into circulation. At the 2011 AGM Crop trial, I arrived a day earlier to visit NR and the uncles in Palmerston North. At NR's Massey office, Catherine Lever (one of NR's technicians at the time), was bagging up seed taewa to sell at the AGM: 16 3kg bags of four varieties (moemoe, tutaekuri, huakaroro, and waiporoporo). She was also assembling a collection of information posters to be distributed at the hui: crop posters, taewa images, psyllid information sheets, a proposed hikoi to visit indigenous communities in NW USA and Canada where NR had previously visited on research). Copies of the hui poster and hikoi o te taewa posters that I had created with NR were also printed and collated. That night I stayed at NR's home, Simon Lambert, the taewa twins and Uncle Sam were also there. The hui (13/8/2011) involved some 70 people, a mix of TW members, marae whānau, and visitors. The taewa bags were set-up on a table in the corner of the wharekai, and all were purchased<sup>28</sup>. In the 2012 Haraki hui-a-rohe, 12-15 kilos of seed were made available on a table in the wharekai for people to take and grow and were mostly sold, while in Tuhoe another 12 kgs of seed was given for free to a young couple who were encouraged to take them away to plant. At the 2012 AGM in Wanganui and after some agonising over pricing, 11 two kilogram seed bags stamped with the Tāhuri Whenua logo and contact details were presented for sale alongside two boxes of taewa pest management books.

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<sup>27</sup> Intended as a joke, this comment hid elements of truth.

<sup>28</sup> As NR explains, most will use it to grow crops, but some will eat them.

Figure 5.2 Taewa circulation as instituted by Tāhuri Whenua

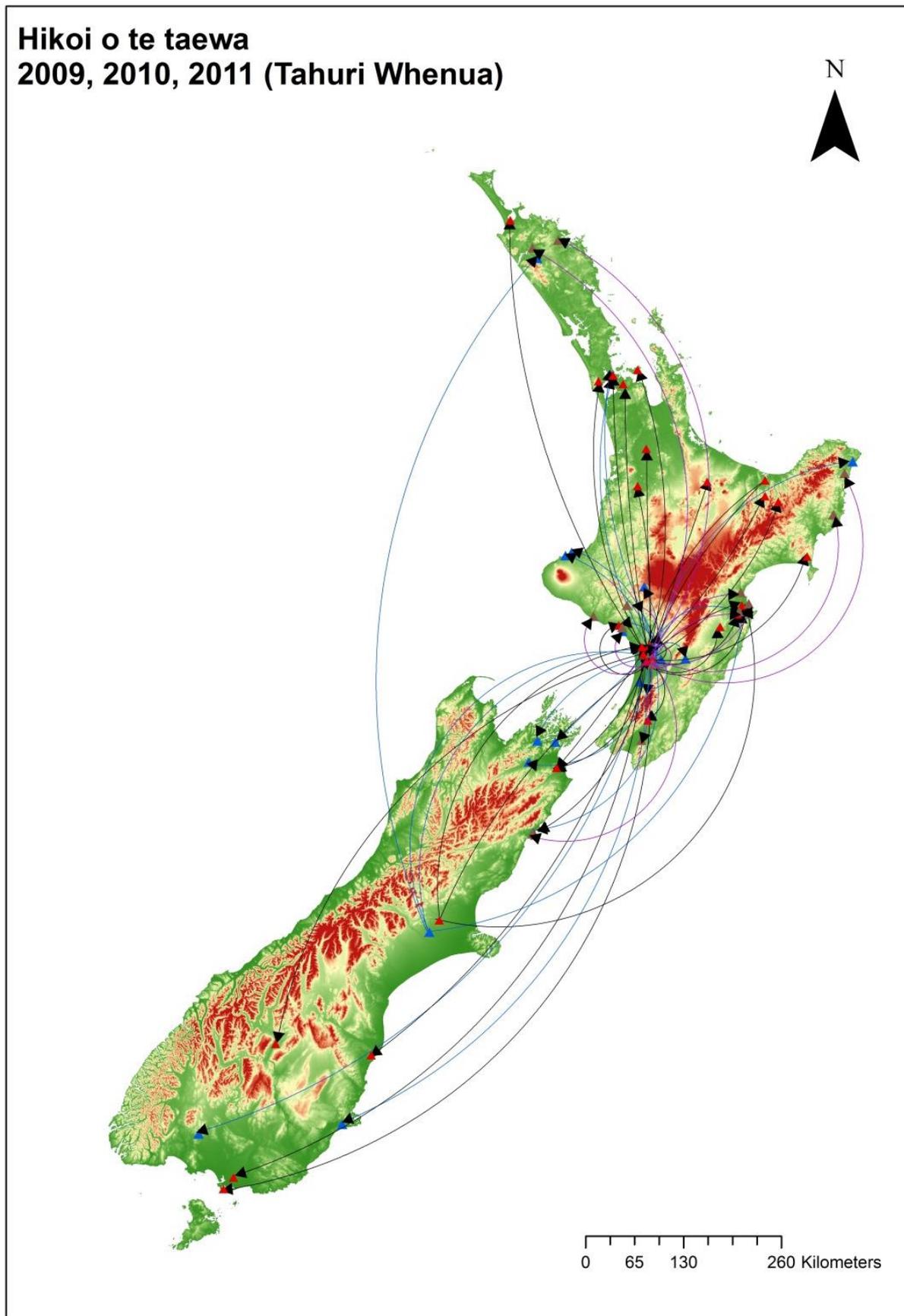


Figure 5.3 Te hikoī o nga taewa: Tāhuri Whenua circulation poster, presented at (AGM 2011, Hui-a-rohe 2012, AGM 2012, AGM 2013)

## Tahuri Whenua – Te Hikoi o nga taewa 2008-2011

### Aotearoa – New Zealand

### National Maori Vegetable Growers Collective

*Resourcing / Promoting / Facilitating / Supporting / Advising / Informing*



**2008**

**Varieties:** moemoe, huakaroro, tutaekuri, te Maori karuparera, kohatuwhero, hopewairua, raupi as well as kaanga and kamokamo

**Places:** Whanganui, Ruatorea, Waipatu, Hastings, Napier, Waitotara, East Coast, Feilding, Palmerston North, Kaikoura, Raetihi, Ohakea, Bulls, Manutuke.

**Quantities:** 12 taewa seed to 4kg

**Gardens:** marae, kohanga, kura kaupapa, community gardens, trusts, hapu, whanau, heritage gardens and spud-in-a-bucket participants (including all schools in Oamaru district and Ngati Porou/East Coast).



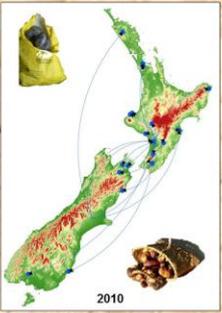
**2009**

**Varieties:** moemoe, huakaroro, tutaekuri, karuparera, kowiniwini, te Maori, as well as kaanga and kamokamo

**Places:** Pukekohe, Hato Paora, Whanganui, Waipatu, Hastings, Palmerston North, Ohakea, Bulls, Invercargill, Whakatane, Hamilton, Awapuni, Blenheim, Kaitiaki, Otane, Waiheke, Bluff, Cromwell, Wairarapa, Rotorua, Oparure, Gisborne, Ruatoki, Auckland, Kakanui, Waitakere, Tainui, Pukehou, Kaihu, Manutuke.

**Quantities:** a few to 250 taewa seed

**Gardens:** marae, kohanga, kura kaupapa, community gardens, trusts, hapu, whanau, heritage gardens and spud-in-a-bucket participants.



**2010**

**Varieties:** moemoe, huakaroro, tutaekuri, waiporoporo, A5 well as kumara tipu, kaanga and kamokamo

**Places:** Ohakea, Otaki, Bulls, Ohai marae, Whanganui, Auckland, Dunedin, Palmerston North, Dannevirke, Ohakune, Muaupoko, Waikawa marae, Picton, Marlborough, Takahanga marae, Kaikoura, Ngati Kuaia, Ruatorea, Waitara, Atiawa, Longburn, Kairau marae, Kohupatiki marae.

**Quantities:** 6 taewa seed to 300kg

**Gardens:** marae, kohanga, kura kaupapa, community gardens, trusts, hapu, whanau, heritage gardens and spud-in-a-bucket participants.



**Tutaekuri**

**Te Waipounamu**



**Huakaroro**

**Te Ika a Maui**



**Moemoe**



**Karuparera**

**Rakiura**



**Tāhuri Whenua**

[www.tahuriwhenua.org.nz](http://www.tahuriwhenua.org.nz)

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**Figure 5.4 Crop trials, Surplus taewa and Making available taewa seed and grower information at Tāhuri Whenua hui.**



**NR's office at Massey University, Palmerston North: a node for producing and sorting taewa, and injecting taewa into the taewa economy via hui.**



**Taewa crop trials at Massey University, Palmerston North**



**Storing taewa seed at Massey University, Palmerston North**



**Making taewa seed and information available at Tāhuri Whenua hui: Kaiwhaiki marae/Pa, 8/9/2012**  
(\*photograph of my car boot)



**Making taewa seed and information available at Tāhuri Whenua hui: Te Putahi a Toi, 31/8/2013**



**Making taewa seed and information available at Tāhuri Whenua hui: Aorangi marae, 27/9/2014**

### **5.4.2. The Uncles: mobilising institutional relationships for cultural exchange**

Tāhuri Whenua also provides an institutional framework for its members to circulate taewa, taewa knowledge, and taewa artefacts independently of the organisation, and thus to assemble taewa economy through more informal relations and cultural practices. As NR mentioned, most will use it to grow crops, but some will eat them. The Uncles (Hemi Cunningham – Uncle Jimmy – and Pita Richardson - Uncle Peter), are kaumatua roopu members of Tāhuri Whenua and are known as the ‘taewa twins’. They grow taewa on marae and whānau land at the kaumatua flats, and provide considerable input to the trial gardens at Massey University. Their gardens range in size, from approximately two hectares to individual buckets. They have successfully drawn on a number of resources to help their gardens: NR and students from Massey provide labour at planting and harvest time; Massey provides agrichemicals and fertiliser; local contractors and farmers have provided labour and equipment; and they have hosted convicts on periodic-detention who have assisted with crop management. They see their gardens as a project on behalf of Tāhuri Whenua (Hui-a-rohe, 2011), and inject a considerable amount of taewa seed back into Tāhuri Whenua on harvest. Essentially they grow taewa to keep it alive, both for the ancestors and future generations. Between 2010 and 2013 they suffered significant losses due to the psyllid (which will be discussed in Chapter 7). They now plant to the production conditions and whether they can access high enough quality seed. In 2011, they aimed to produce about twenty-kilograms of taewa (AGM, 2011) to feed a hapū reunion, produce seed for school gardens, feed the marae, and gift seed when they were able.

### **5.4.3. Makuini: mobilising state investment for commercial and cultural exchange**

Makuini Chadwick is an executive committee member of Tāhuri Whenua, who grows taewa on whānau land and a community allotment in Otāua, Taitokerau. She calls taewa, peruperu or perus. Additionally she has at times grown saffron as a commercial crop. Her peruperu crop is primarily commercial, and she sells ‘gourmet perus’ at the Kerikeri Farmers Market and a local store. The surplus is used for whānau, marae, koha to other growers and saving seed. The garden is her income. To establish a garden she has drawn in state investment via TPK’s Whānau Ora initiative (Pers. com. 20/7/2010, Paihia). Her current garden project seeks to demonstrate to her whānau the opportunities of growing and exchanging peruperu. In her role as a Tāhuri Whenua member, she hosts numerous hui in Taitokerau to share and encourage Māori to utilise their land for Māori crop production.

Makuini invited me to her 2010-2011 peruperu harvest (19/03/2011, Otāua) (see Figure 5.5). The encounter made visible investment, seed, labour, Tāhuri Whenua, qualification, koha and peruperu movement. The Whānau Ora money was largely spent on purchasing virus-free taewa from ALMAC via Tāhuri Whenua – ‘it was beautiful seed ... all the same size and in great condition’. Her whānau, two manuhiri (visitors), who had come to talk to Makuini about saffron production from Te Teko (they found her on ‘google’ when searching saffron), and myself, seven people in all,

laboured to harvest the crop from twelve twelve metre rows. Work was manual, first I removed gorse, parspelem and blackberry bushes, then we each unearthed the peruperu by hand and placed them in twenty litre buckets. It took four hours to complete. Makuini discussed saffron and peruperu production, and the possibilities of a whānau garden to grow perus commercially with the manuhiri. She discussed the merits of both, encouraged them to contact NR (i.e. Tāhuri Whenua) and attend an upcoming hui-a-rohe. Makuini sorted peruperu into three categories: market or 'gourmet' (golf-ball sized, good colour, round shape); seed (30-60g); and kai (anything that was left).

**Figure 5.5 Otaua to market and other gardens: Harvest, koha, seed, and market 'perus'**



All up, about two-hundred-and-seventy kilograms of peruperu were unearthed and distributed into sacks, which could hold approximately thirty kilograms. Four sacks were gourmet grade, these would be sold as one kilogram bags at the Farmers Market in April when Makuini explained she

might get an out of season a premium (between \$6-8/kilogram) ‘for my perus’. The two manuhiri had previously grown taewa, but their most recent season was a failure (most likely due to the psyllid). Makuini gave them a sack of perus as a koha for the labour and their garden. In addition to the labour, the manuhiri gave Makuini a titi (mutton-bird), which is extremely difficult to access in Taitokerau, as koha for the knowledge she had shared about saffron and taewa.

#### **5.4.4. Hanui: Utilising Māori land to facilitate riwai exchange**

Arohanui Lawrence, (Aunty) Hanui is an executive committee member, who cultivates two gardens on Māori land, one at Waipatu marae (Aunty’s Garden) and the other on whānau land in Hastings. She calls taewa, riwai. These are grown as commercial crops, koha crops, and to keep ‘these taonga alive’. Hanui is a central actor in the Aunty’s Garden market-making experiment (see Chapter 6). Hanui depends on her whānau land to make a living (and pay the land taxes) and the Waipatu marae garden is for the sustenance of the marae and the upkeep of the garden (not subject to land taxes). The garden at Waipatu previously used to be an unused football field. She has previously been a contract grower for Watties-Heinz, and invested in GAP certification in order to gain access to supermarkets. Hanui grows her riwai according to her traditions and also utilises western science, but she does not use agrichemical insecticides. In 2011 Hanui sought certification as a Hua Parakore producer, a Māori organic certification system developed by the Māori organisation Te Waka Kai Ora.<sup>29</sup> As she explains her kaupapa:

is not really organic and I don’t use the word ... we grew up growing gardens and we didn’t use sprays because we couldn’t afford too. Organic is a bit of a palangi (white persons) word. We grow this way because it’s just the way we did things.

Hanui mobilises a number of resources for both her gardens. Her whānau land is largely cultivated by her (and her whānau), and she has been able to draw in support from the Hastings Environment Centre, PFR and the Ministry of Justice. These provide investment, resources (i.e. ideas and knowledge) and labour (e.g. helpers and workers on periodic-detention). In specific relation to her whānau land, she often works closely with PFR and the Environment Centre, whereby a number of crop management experiments occur on her land. In terms of whānau, she has started to plant her riwai crops earlier (in August) to mitigate the psyllid, and adds ‘when the whānau is home for Christmas they can harvest them’. For Aunty’s Garden, she draws on marae resources, external investment and labour (i.e. schools, the Eastern Institute of Technology, the Environment Centre, Soil and Health Association, and periodic-detention workers). She receives approximately forty-six school visits per year, whereby the students help with gardening, and the periodic-detention workers come three times a week ‘to do the hard labour’. In terms of the periodic-detention workers, she claims that the garden provides a ‘positive space for some of these people... they take much pride in their work at the marae garden’ (AGM 2012). This garden has received investment from iwi trusts, the marae, TPK (Māra Kai fund) and District Health Board

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<sup>29</sup> Hua Parakore is a Māori organic certification standard (see, Hutchings *et al.* 2012).

(Healthy Eating project). Additionally, upon posting the garden needed an irrigation system on Facebook, a person (from America) donated the necessary materials.

Hanui is engaged in a number of economic experiments to broaden her opportunities to exchange her riwai commercially. At present she currently exchanges produce from her whānau land at the farm gate, supermarkets and agricultural stores. For the marae garden, she has instituted a koha system of exchange (see Figure 5.6), whereby people come and pick their own vegetables and then leave a koha (money) of what they think the produce is worth. In explanation, she says:

Well what do you feel when you come to this garden ... they say well I feel a lot of love ... well just put in what you feel ... some people might put in \$2 and come out with a basket full of kai ... a lot of them do especially our whānau, and they've gone off with about 10 bucks worth of stuff ... but that's alright (Lawrence 2013).

The koha system has not always worked: 'people not giving a koha and the koha box itself has been stolen a few times' (AGM, 2014). However, she persists because of its centrality to her kaupapa and commitment to Māori economy. More recently she has started to exchange the produce of this garden at the Hastings Farmers Market and has been a leader in the Aunty's Garden experiment with developing a Māori food brand and 'taking Māori to the market'. Further, the Waipatu garden has become a formalised educational site, and Marion Thompson<sup>30</sup> and Hanui have set up a NZQA credited course in horticulture. The programme runs for a year, and more recently the students came and spoke to Tāhuri Whenua at the 2014 AGM.

**Figure 5.6 Aunty's Garden and the koha institution of exchange**



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<sup>30</sup> Marion Thompson is a founding trustee of the Sustaining Hawke's Bay Trust and Environment Centre Hawke's Bay. Marion and Hanui work closely and facilitate opportunities for people interested in sustainable horticulture to visit and work on Hanui's gardens. The relationship draws in resources to Hanui's gardens (incl. people, knowledge, growing practices).

In all these various guises Hanui is an entrepreneur of taewa and Māori economy, the kind of actor necessary to articulate relations among and mediate exchanges between diverse economies. She articulates the collective marae and gift centred taewa economies in which the uncles operate, state interest, neolocalist artisanal economies represented by the farmers market, state-marae educational and welfare economies, and small-scale conventional markets. Each of these diverse economies is brought into relation by her energy and experimentation, and she entangles them in a circulation of her taewa, cash, labour, Aunty's Garden branding, and Māori economy and Hua Parakore protocols, and her ability to rally whānau and hapū to assist and support.

#### **5.4.5. Other Tāhuri Whenua growers**

At hui, growers share stories about why they grow and their enterprises. Growers in Te Kuiti report having negotiated a commercial arrangement with the local supermarket to supply taewa in the summer months. They keep the surplus taewa for whānau and marae. A grower in Taumaranui grows taewa to teach his children about Māori cultivation and exchanging food, 'I get them to sell taewa at the gate... they learn about the commercial value of this crop and how to interact with people'. These accounts and those of Tāhuri Whenua's formal experiments, the Uncles, Makuini and Hanui all point to the way that the circulation and exchange of taewa constitute a Māori economy in articulation with state social development projects and capitalist markets. Growers position themselves differently with these circulations. Some are organic growers, some prescribe to traditional growing, other merge traditional and conventional growing practices (i.e. the use of fertilisers, pesticides and insecticides); but all follow Māori customs for planting and harvesting; welcoming mediators; and gifting surplus. They grow Māori vegetables to the Māori calendar and offer a karakia before and at the end of work. They all enrol and are enrolled into Tāhuri Whenua (seed, ideas and knowledge, relationships to others, practices). Taewa are a marginal crop for a small number of growers who pursue different aspirations, but all are committed to keeping it alive and using it to do cultural work in diverse circuits, that entangle marae, gardens, research institutes, laboratories, farmers markets, farm gates and supermarkets.

#### **5.5. Journeying with virus-free seeds**

In this section I present my encounter with the Taewa Virus-Free Seed project, an arrangement between Tāhuri Whenua and a commercial seed company to produce virus free taewa seed. A virus-free-taewa promises growers a quality seed supply, healthier crops and a better more consistent yielding potato. The project introduces new objects into the circulations and exchanges that make up taewa economy and provides a point of articulation between the taewa economy and capitalist potato economies. In this section I present an account of my encounters with the virus-free project; that is, my journeys with the project and its objects, the virus-free taewa.

### 5.5.1. Tāhuri Whenua and the commercial seed merchant

The availability, quality, and virus content of taewa seed has been an enduring concern of the taewa projects launched by Tāhuri Whenua. In 2005 it entered into an agreement with Alex MacDonald & Sons Seed Merchants (ALMAC), one of NZ's largest commercial specialist seed production companies. Under this agreement, Tāhuri Whenua supplied ALMAC with taewa cultivars who entered them into their tissue culture programme. Four varieties of the most commonly marketed taewa were selected for the programme, Moemoe, Tutaekuri, Huakaroro and Karuparera. The project was to ensure a stable supply of quality seed and help Māori produce a consistent high quality yielding crop. For taewa growers engaged in commercial initiatives, this would support a more consistent supply of these varieties to market channels.

The project aimed to breed-out viruses and produce high quality virus-free seed of a standardised size. Growers were advised to use the programme to grow taewa for seed as well as kai:

Taewa have a significantly lower crop ratio to mainstream potatoes - 15-20 tonnes per hectares as opposed to seventy. The seed specialists ALMAC are working on taewa seed, removing viruses, controlling size etc., to try ensure that it is 'as good as it can be'. This is a project to try ensure there is greater access to reasonable taewa seed and increased certainty around harvest yields (Roskruge Hui-a-rohe 2011).

Gives you as grower the opportunity to grow a first generation crop – then after you harvest you can store the best tubers for next seasons seed, which will be your second generation ... the various properties which may have hampered your old seed have been bred out ... this ensures you get a better and more consistent yield of taewa (Roskruge, AGM 2014).

ALMAC provides tissue-culture programs and propagates virus-free potato seed in its laboratories and glasshouses in Canterbury. Once taewa are cleared of viruses and successfully propagated, they are planted out on contracted farms at Methven and Darfield on the Canterbury Plains. These farms are part of a major global seed industry, and utilise environmental conditions and technologies that minimise the chance of viruses and pests. Its seed potatoes are distributed across New Zealand, mainly to large scale potato cropping regions. Apart from a small cost associated with the original virus treatment work, ALMAC provides this programme for free. ALMAC registered the Taewa seed on the NZ Potato Register and grows it alongside other potato seed and upon harvest is made available at cost to Tāhuri Whenua, who redistributes it to growers. Members of the collective and other Māori growers get first right to the harvest. Any surplus would belong to ALMAC who could then sell it on. In the initial years of the agreement NR and the Uncles would sometimes visit ALMAC to see progress, now 'we keep a view from a distance' (Roskruge, Tāhuri Whenua AGM, Rongomaraeroa marae, 2011).

## 5.5.2. Taewa circulating in commercial potato worlds: Going into ALMACs fields

In mid-2012, a chance encounter with my friend Matt gave me an opportunity to visit one of ALMAC's contract farms. Matt's father, Tony, is a sheep and crop farmer on the Canterbury plains in Methven. I had spent considerable amount of time at Tony's house between 2001 and 2003. During the 2009-2010 season Tony was contracted by ALMAC to grow 'Māori spuds'. Potatoes were now a shared interest - he was a grower and I was studying them.

Tony talked me through the process of contract farming virus-free potatoes for ALMAC. He was approached by ALMAC to rent out some of his family farm to grow potatoes, including Māori potatoes. Tony's role was to plough 10Ha land in preparation for planting and ALMAC 'did everything else'. This included planting, spraying agrichemicals each ten days (i.e. for aphids), the cost of seed certification, organisation of certification visits, the application of defoliant, and then the harvest. The potatoes were earthed for nineteen weeks, with fifteen for growing, at which point the plants were sprayed with defoliant. They spray defoliant to stunt tuber growth at a size suitable for seed. Then they spend four more weeks earthed in order to toughen the potato skin: a tougher skin means the tuber does not degrade as quickly once harvested. From Tony's farm the potatoes were taken to a cool store, sorted and stored for another 3 months before being sold to potato growers mainly from the North Island.

Tony arranged an interview for me with ALMAC's local production manager and to observe a potato seed harvest at a neighbouring farm. We arrived to an eighteen hectare field where there was a potato harvester, a eighteen wheel truck and double trailer, a couple of tractors, numerous wooden pallets and five people (see Figure 5.7). Alongside the production manager there are two people who sort potatoes on the harvester, the truck driver and a driver for a tractor that is lifting the pellets full of potatoes onto the refrigerated truck. The production manager has grown potatoes all of his working life, and before that he helped his father who was a commercial potato grower. He and Tony talk about 'spuds' and introduced me. The introduction was important because it authorised me as being 'more-than-an-Aucklander'.

Phil, the manager, tells me they have grown nine varieties in this particular field this season, including tutaekuri, huakaroro and kowiniwini. He says that pronunciation and spelling their names 'ain't easy', and they are listed in his pocket notebook as 'M1, M2 and M3'. Next we go see a few of the rows of these potatoes – each row is over five-hundred metres long – and he unearths M1, M2 and M3. He tells me that these potatoes are grown for an organisation in Palmerston North (i.e. Tāhuri Whenua) and explains that they are 'Generation Four'. Each generation represents a slightly different taewa as ALMAC has worked to breed out and propagate particular characteristics. This has proven difficult with the 'unruly' taewa and ALMAC has concentrated on breeding-out negative qualities and viruses. This has yet to be fully successful, with Potato Virus Y not yet eliminated. Currently they are trying to control the way 'runners' diffuse away from the seed so as to encourage denser, more concentrated growth in the tubers.

Phil tells me that the process of removing viruses and tissue culturing occurs at the ALMAC laboratory and glasshouse. The plant stock is 'cleaned' by culturing and certifying virus-free varieties in the laboratory. This micro-propagation may take one, two or more years to achieve, but once it is achieved, the resulting plantlets are grown-on to produce small tubers which are 'bulked-up' in yield and numbers through plant production in a glasshouse. From here the tubers are grown-on in a summer production season outdoors and the harvest crop is then available to be sold as seed. The new taewa becomes more consistent in shape, size and colour. The approach speeds up the release of new cultivars and healthier, more uniform plants.

They were not harvesting the Māori varieties the day of my visit. Rather, they were digging a variety called Cliff's Kidney. I was invited onto the harvester (a GRIMME SE 75-30 harvester) which is mechanised and towed behind a tractor, where the two sorters work. The GRIMME promises the driver 'higher output', 'more effective potato, soil and rock separation', and 'gentler crop handling'. The engineering bits and features that do this are all covered by international patents. The harvester harvests the potatoes on a multi-purpose conveying system. I helped sort the digging, removing any rocks or dirt clumps missed by the sorters - there was not much work for me to do. In what was a twenty minute drive, the harvester had dug up between three and four tonnes of potatoes. Each pallet contained approximately 900kg of seed potato and was loaded onto a truck. A truck-load comprised forty-eight tonne of seed potato, which was then taken to the ALMAC cool storage facility. As I watched the truck complete loading, a second was on its way to the garden. The operation was mechanised, industrialised and overwhelming; never had I seen so many potatoes (Figure 5.7). The contrast with the small size, weed-riven, and manual harvest of the taewa gardens of Tāhuri Whenua and Aunty's Gardens is stark.

**Figure 5.7 Industrialised seed production: ALMAC potato fields (continued next page).**





### 5.5.3. Pub-based potato banter: Encounters with ALMAC growers at the Brown Pub, Methven

Later that afternoon Tony took me to the Brown Pub, Methven, but made sure we did not turn up too early as it 'makes you look slack'. The pub has an important place in rural life and the production of rural masculinities (Campbell, 2000). The 'Brown Pub' is renowned as the 'older locals' pub' where farming men come to have a jug of beer between four and six pm before returning home. I had been to this pub a few years early with Tony and his son Matt, but this was a research encounter. Tony purchased the first jug of beer and we joined a table with one other person, a seventy-five year old sheep and crop farmer. Tony prompts a conversation about Māori potatoes with the guy, and mentions I am a student from 'Auckland' who is studying 'Māori potatoes'. He responds, 'bloody Aucklander. Why the hell would anyone study them?' (Anonymous, Methven, 18/6/2011).

Other farmers soon joined the table, nearly all of them had at some point contracted their land for ALMAC to grow seed-potato. Many of them remembered the 'Māori potatoes', a term they used to refer to tutaekuri. They were remembered unfavourably and as a pest. One farmer remarked to nods of agreement that 'those spuds are still popping up in my paddocks'. Tony is a long-term and respected Methven farmer, meaning that the banter was informed, helpful and playful, even if it was directed at me. I purchased a couple of jugs of beer for the table, resulting in more than one farmer grinningly observing that 'at least we are finally getting something back from our tax'.

We talked about Māori potatoes. The farmers did not know some of the varieties which were grown on their land and where the harvested potatoes ended up other than somewhere in the North Island. I shared a few stories about the places they turned up (i.e. schools, marae and individual gardens) and how they were grown (i.e. small plots, manual labour, no insecticides, and little investment etc.) and some of the value Māori growers attached to taewa (i.e. it is a Māori treasure, keeping it alive, to produce whānau and marae food, supplement or end dependence on

State domestic purpose benefits etc.). Likewise, I informed them that tutaekuri was not the only 'Māori potato', and mentioned one of its other names urenika and gave them a rough translation<sup>31</sup>, which they seemed to enjoy. Plus I explained how there were many varieties, each with names and particular cultural significance. Essentially, the farmers (or at least some of them) seemed quite interested in these Māori potato worlds – far removed from when taewa were in their paddocks.

The ALMAC harvest and the Brown Pub encounter revealed the distance between the potato worlds through which taewa circulate as they move from virus-free seed (laboratories, industrialised/capitalised farms, and Pākehā farming relations) to become taewa and circulate anew in Māori worlds. This involves moments and places of articulation, such as the laboratory, the farm, and the pub and hui-rohe where unfamiliar exchanges are mediated and meanings articulated. The object means different things as it circulates through these economies. For Pākehā farmers, the taewa was a commercial object with an unstable biology. It was also a persistent and invasive pest. My appearance in the pub introduced new meanings and added new lines of mediation. On the Methven visit, Tony also gave me 2kg of tutaekuri, setting up a further circulation and articulation between economies. On returning to the North Island, I gave these as seed to Uncle Jimmy, who in return gave me 1kg of tutaekuri that had been harvested from the Tāhuri Whenua trial garden at Massey University. We discussed the Methven fields and shared stories of seeing these taewa elsewhere.

#### **5.5.4. Virus-free taewa at large in taewa economies**

Virus-free taewa re-enter the taewa economy through Tāhuri Whenua, linking ALMAC (the capitalist potato world) and Māori economy. These seed inject virus-free seed, and seed which is most likely Lso-free back into Māori economy. ALMAC harvest the seed in early April and make it available to Tāhuri Whenua in late June to August. Tāhuri Whenua take some of the virus-free seed and put it into circulation in the Māori economy through its own growing programme at Massey which redistributes taewa through the garden project and directly to growers. Growers are also able to purchase seed at cost through Tāhuri Whenua, which contacts members and other Māori growers midway through the year with order and contact information for ALMAC. ALMAC sell seed at \$2-3/kg and minimum purchase is twenty-five kilograms. Tāhuri Whenua informs growers that seed is available and provides information on the available varieties, when to purchase and who to contact. Tāhuri Whenua also puts seed into crop trials and the spud-in-a-bucket project. Initially Tāhuri Whenua acted as the market intermediary by placing orders on behalf of its members and other Māori growers, collecting payments, and distributing seed. However, while it will still deal with ALMAC on behalf of growers, especially if a grower wants less than 25kg, rising transaction costs and the failure of some growers to pay for their seed have meant that it now encourages growers to order directly from ALMAC in more fully commercialised relations.

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<sup>31</sup> Niggers cock.

The ALMAC agreement has increased and accelerated the circulation of taewa seed. It injects 15-25 tonnes of seed into the taewa economy each year. The seed has the potential to produce more than 200 tonnes of table taewa each year with a total market value of approximately \$1.2 million, although far from all of this taewa will enter into commercial circulation. Whether commercialised or not, the supply of new seed taewa has helped produce a consistent high quality yield and expanded the taewa economy.

However, some growers suggest that all this has come the cost of a slight shift in taste towards that of standard supermarket potatoes. Being virus-free has removed inconsistencies and ensures better quality crops, but tinkering with the taewa appears to have removed certain qualities. Taewa is now better able to circulate in an industrial economy and has been [somewhat] protected against the psyllids that threatened any form of circulation, but it is perhaps no longer taewa in its circulation around traditional cultural economy. Furthermore, ALMAC has advised Tāhuri Whenua that they will no longer be able to provide the virus-free taewa service after the 2015 growing season due to increased costs (Roskruge, 2014 AGM). The tissue culture plants which were the basis of the production system will remain in storage, but ALMAC will not produce the seed crop to which Tāhuri Whenua had enjoyed access. While committing to 'keep in touch' with ALMAC, NR has sought to turn the situation into a new opportunity for Māori to operate taewa production from seed to kai.

Tāhuri Whenua has published a call for expressions of interest amongst Māori: 'If anyone would like to consider the *wero* of producing these crops for future growers then we would be interested in hearing from you' (Roskruge, TW Newsletter, December 2014). They are now in consultation with a multi-iwi entity who may be able to grow taewa and seed commercially. This new arrangement promises to ensure the continued flow of bulk certified seed that has been critical to the resurgence of interest in taewa and will allow Māori to operate taewa production from seed to kai. It will put small growers into direct relations with the Taniwha economy. It will establish new points of articulation between diverse and capitalist economies, including the contradiction emerging from grower claims that the cleaned industrial seed is not an authentic taewa.

From Māori economy to mainstream and back again, the ALMAC chapter of the taewa story is one of overflows (Callon 2007). The ALMAC deal increased and accelerated the circulation of taewa, and safeguarded it against the psyllid, which threatened to interrupt this circulation and overcome taewa economy. Tāhuri Whenua has mediated this circulation, strengthening its own role in taewa and wider Māori economy. Taewa and taewa economy have a greater chance of survival. However, in doing this, ALMAC has created a new taewa, especially in terms of the qualifications in Māori economy set by kaumatua. The judgement of kaumatua that they taste different mean that they are not the same object in Māori economy. On the other hand, taewa now circulate more widely beyond Māori economy through paddocks, local growers, vegetable sellers, and the sale of taewa chips at fish'n'chip stores, even if Pākehā farmers are detached from these exchanges and know little of either Māori or capitalist taewa economy.

## **5.6. Journeying with State Investment, Research, Expertise and Market projects**

This journey documents the injection of ‘other’ objects, actors and practices into taewa economy, from state funding to various commercialised objects and market mediation. These objects and subjects bring capitalist economy into taewa economy centred in Māori worlds. The section again focuses on my own observation of, participation in, and movement with these objects, actors, and practices.

### **5.6.1. Te Puni Kōkiri’s Māra Kai fund: Translating State Funds into Tangible Gardens**

Initiated by the Māori Economic Taskforce and TPK, the Māra Kai project encouraged the use of under-utilised Māori land. It is a small grant (up to \$2,000/garden) state investment fund for Māori gardens. The success of the fund has been undermined by lack of knowledge, seed or land among applicants, and by the failure of some successful applicants to plant gardens or to sustain them beyond a few months. In this vacuum, Tāhuri Whenua positioned itself to mediate between the fund and interested groups. It established its own goal to ensure growers make the most of the opportunity. Tāhuri Whenua offers the missing knowledge and sustained commitment to making gardens sustainable. Its commitment was recognised in a formal TPK-Tāhuri Whenua partnership that gave it specific responsibilities for distributing and facilitating Māra Kai investment.

Negotiated in 2011 for the 2011-2012 growing season in a specific geographical area, it was extended in 2012 with new responsibilities for the wider region of Aotea, which includes Taranaki, Taumarunui, Whanganui, Rangitikei and the Manawatu, and now Te Tau Ihu (2014-2015). Tāhuri Whenua work with marae, school and whānau groups to develop a garden project. They facilitate access to Māra Kai investment and help establish and maintain the garden over a period of time. Members would visit a garden provide seed, advice, and material and later issue a \$500 voucher for the purchase of extra plants such as fruit trees. Tāhuri Whenua work directly with these groups to ‘make the garden happen’. They provide Māori vegetable seed (incl. taewa), resources (Tāhuri Whenua crop information books), on-site garden workshops (e.g. site analysis, growing advice, labour), and ongoing mentorship. On garden days Tāhuri Whenua members help with the garden work and share stories about the significance of Māori crops and what they have achieved with their garden. Groups also receive membership to Tāhuri Whenua.

In practice the programme has been hailed as a success by participants in their presentations at Tāhuri Whenua hui and in written project reports. As well as funding the purchase of seed and horticultural materials, the scheme is credited with enabling growers to strengthen upstream and downstream networks, encouraging confidence, co-learning and innovation (planning, planting, setting up maara, windblocking, irrigation skills, companion planting and so on); encouraging whānau and friends to participate and connect with the land; fostering hui; connecting with other Māra Kai groups (including establishing a Facebook page to exchange information and

learning experiences, upload photos of hui, detail progress); and (re)inspiring ethics and practices of self-sufficiency. One in particular, mentioned how Tāhuri Whenua's support had re-established kumara growing at the marae, which had been absent for decades. Tāhuri Whenua provided kumara seed and helped them establish tapapa beds – traditional kumara growing beds.

While the programme was expected to finish in 2012, it has been extended in part due to the success of Tāhuri Whenua's facilitation – it is still going in 2015. Tāhuri Whenua has challenged groups to make their gardens exemplars for the project and to extend its aims into seed-saving and expansion in size and into Māori vegetable exchange. Tāhuri Whenua has challenged the notion of investment failure and has been able to generate success for both Māori and TPK. In this way it has confronted investment 'risk' and 'failure' and demonstrated success. It has inserted itself as an intermediary between TPK and whānau/marae groups and is now investigating opportunities with other regional TPK offices to extend their service. In NR's terms Tāhuri Whenua has been able to shift understandings of local Māori development spending as short-term and dispensable grants to the funding of sustainable investments to entrepreneurial and committed groups, and in turn to 'influence (direct) and organise how government investment money is spent in Māori horticulture' (AGM, 2011). TPK remain committed to Māra Kai while Tāhuri Whenua is working on a book, 'how to establish a mārakai' (food garden).

### **5.6.2. Plant and Food Research (PFR): Putting Science in Circulation**

Tāhuri Whenua has a number of direct relationships with PFR as well as Massey University. Its members run various crop trials as part of PFR projects. Two of its executive committee (Aleise Puketapu and Richard Hunter) are employed by PFR, as are other members, allowing it valuable access to resources for taewa economy and making Tāhuri Whenua an ideal partner for PFR interests. Expertise and investment flow through this relationship, while taewa and valuable knowledge of them flow both ways. Tāhuri Whenua has contracted PFR to undertake state funded experiments (see above), while PFR has also been involved with Tāhuri Whenua members in the 'Best of Both Worlds' research in the Hastings, East Cape and Rangitikei regions. PFR scientists and business managers appear at hui to discuss on-going research with the Tāhuri Whenua executive and share with members knowledge on 'best practice' and opportunities to connect to projects. Aleise, in particular, brings PFR into taewa economy and takes taewa into PFR scientific experiments. She is a crucial mediator of psyllid knowledge and has brought Stephen Ogden, PFR's lead psyllid researcher, to hui (2011 AGM). Richard, who is the vice chairman of Tāhuri Whenua, is a member of PFR's Māori Business Development Group, as is Alby Marsh who participated in the Kamokamo and taewa cultivation projects with Aleise. Richard presented Te Kete Ahumaara, a project to compile an internet-based repository for Māori knowledge and inspire 'innovative business based on sustainable high-value fruit, vegetable and seafood production' (2012 Haraki marae).

### 5.6.3. Mediating State Interest in Taewa

NR sits on the boards of a number of State-Māori panels and organisations, including scholarship selection committees (Te Tipu Putaiao Fellowship) and the Environmental Protection Authority. In both roles he is able to mediate between Tāhuri Whenua interests and those of the organisation he represents to foster taewa research and Māori participation in it. I outline above (Section 5.6.2) some of the research opportunities that NR has mobilised for members as a mediator of State-Massey-Tāhuri Whenua relations. NR also brings insider-informed understandings to Tāhuri Whenua and for example regularly discusses the Treaty of Waitangi Wai262 claim<sup>32</sup>, and the opportunities presented for Māori if the Crown returns ownership of water to Māori (AGM 2010; AGM 2011; Hui-a-rohe 2012; AGM 2012). He has also been able to encourage Māori participation in EPA reviews of environmental issues such as the use of synthetic organic-phosphate. Māori have traditionally been unaware of, and unable to access, such reviews and have not participated. NR brings these opportunities to growers directly, and at Haraki marae invited Māori growers to make both individual and collective submissions to the EPA's review. Such engagements can be surprisingly productive. For example, NR's invitation led a member to ask:

*Nick should we (Māori) be organic? NR responded: as Māori growers you should look for something sustainable for you, and use whatever resources you can access, and ask about what are the best options for your system (Dialogue, Hui-a-rohe 2012).*

The dialogue led in turn to growers sharing their practices for controlling black beetles and blight and for conditioning soils, as well as mixed planting and the spacing of plants. Several growers made individual submissions to the review and Tāhuri Whenua submitted a collective viewpoint.

### 5.6.4. Market-making experiments: Aunty's Garden

In 2009 at its AGM on Rata marae, Tāhuri Whenua invited the organisers of Aunty's Garden (see Chapter 6) to present their market experiment to the collective. A market-making experiment, it sought to 'open up Māori economy to wider markets' (i.e. articulate diverse Māori economies with capitalist NZ economy). The organisers of Aunty's Garden have been regular attendees at Tāhuri Whenua meetings and have worked closely with Tāhuri Whenua in developing their project. Aunty's Garden hosted the 2011 Tāhuri Whenua AGM at Rongomaraeroa marae, Waipukarau. At each of these hui, Aramanu, Ben and/or Hanui would give an update on the project, present Aunty's Garden material (i.e. Aunty's stories, promotional videos, information booklets, postcards, badges and bags) and invite members to join for free. Tāhuri Whenua offered support for the experiment and NR would welcome them and initiate discussions on how to work more effectively together (e.g. 2011 AGM). At each hui NR, Uncles and Aunties discussed project uptake and how to negotiate the challenges faced by each. The advice I heard at the time centred on 'keep going to hui

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<sup>32</sup> Wai262 is a Treaty of Waitangi claim lodged by Māori in regard to rights and ownership of indigenous flora and fauna and cultural intellectual property (mātauranga Māori). See <http://www.justice.govt.nz/tribunals/waitangi-tribunal/inquiries/generic-inquiries/flora-and-fauna>

... you need to demonstrate you're at the grassroots ... and make sure it's open ... growers need to have a sense of ownership and freedom'; and conversely 'it's difficult ... many growers are not at that (commercial) stage yet ... if they don't see it as their project they are unlikely to join ... they may see it as an iwi specific project (i.e. Ngāti Kahungunu) and wonder if there is any value for them ... and they've got their own projects'. The uncertainties, sensitivities and challenges to an experiment seeking to grow from the bottom up into a market-penetrating but locally grounded, cooperative, Māori-economy enterprise were apparent in Aunty's Garden pitches to the collective:

*it's set up by Ngāti Kahungunu for all Māori throughout Aotearoa;  
it's not just a brand, it's whatever you want it to be;  
we don't tell you how or what to grow;  
you can tell you own story on the website;  
it essentially lets Māori producers tell their story of what and why the produce what they do;  
the network is mostly growers;  
it's open to all forms of growing (whether it be organics, Māori organics, traditional or conventional);  
it may be your primary way of getting produce to market or additional to already established market channels.*

A number of members joined Aunty's Garden, as did 'Tāhuri Whenua' as a collective. Aunty's Garden provided an avenue to take taewa, taewa publications and other Māori vegetables to markets.

### **5.6.5. International groups and organisations**

Tāhuri Whenua has also established a number of relationships with international groups (predominantly indigenous growers), industry and other organisations. It has organised a number of overseas learning initiatives. In 2009, a group of growers visited Peru, and a similar visit to Chile and Paraguay has also been discussed, to be hosted by the Paraguay Government and local communities (NR, Haraki marae 2012). There is also a plan in place to visit indigenous groups of the North West of North America (Seattle to Vancouver). These trips are promoted as seeing what other indigenous groups are doing, and act as both a moment to broaden the indigenous collective and to become inspired by what others are doing. The interest here is both in indigenous initiatives and knowledge more generally, and experiments in marketing indigenous potatoes in particular (kumara chips, purple potato chips, kumara tipu, dandelions, and various other produce). The members who go on these trips discuss their experiences at Tāhuri Whenua hui and in their own communities. They speak of gaining inspiration from other groups and of the relative fortunes of Māori compared to other indigenous groups (i.e. 'we're pretty fortunate here', 'we could do what they're doing' 'they have to grow food and create markets, it's their only source of income – they don't receive State benefits'). NR claims that these encounters help Māori 'think outside the box ... add value ... identify opportunities for vegetables' (hui-a-rohe, 2012).

Tāhuri Whenua, through NR, has also made links with the International Potato Centre in Peru. To date the relationship has led to the opportunity to DNA test taewa, from which it will be able to trace taewa back to their origins (i.e. Chile and Peru). This will inform Māori historical worlds. Additionally, NR has negotiated a place for taewa cultivars in the International Potato Centre seedbank project, which is funded by the United Nations (Hui-a-rohe 2012).

## **5.7. Tāhuri Whenua: Economy-making by framing and constructing possibility**

Tāhuri Whenua has helped to lead the (re)emergence of Māori vegetable economies, both by supporting growers and representing core Māori concerns and aspirations to others. It has been successful in safeguarding and extending the circulations of taewa and rejuvenating Māori gardens and gardening knowledge/practice, as well as giving growers new opportunities to participate widely in various projects and creating a Māori space in NZ horticulture. Its members play an instrumental role in making taewa economies, while as an institution it has given shape to, maintained and expanded taewa economy. It has initiated experiments, strengthened existing relationships and built new relations, nodes of articulation with other economies and other platforms upon which the taewa economy might expand. Tāhuri Whenua has successfully negotiated the politics of aligning itself and taewa economy to state, industry and Māori priorities. It has helped to legitimise state investment in Māori vegetable growing and stabilise taewa exchange through Māori values/qualifications. Tāhuri Whenua is an expansionary assemblage that has connected and aligned subjects and matters, and allowed things to move and new things to become enrolled. Its practices, relationships and strategic articulations enact a proliferating taewa circulation. As seen from my own journeying with Tāhuri Whenua, this chapter accentuates the work of particular actors and moments but points to much wider collective efforts. Tāhuri Whenua's success (and the increased circulation of taewa) can be understood in terms of constructing, framing and institutionalising possibility through enactive knowledge making, collective experimentation, and putting stuff into circulation.

The Tāhuri Whenua assemblage gives shape, boundary and meaning to diverse Māori projects and aspirations, and to the taewa economy. It is a significant institutional hub which forms and gives form to situated cultural economic projects. This account tells us about the shape and boundaries of an economy, its institutional forms, and the practices, relations, and circulations of knowledge, objects and actors that 'assemble' it. What, then, is assembled? The short answer is simple: taewa; growers; NR, Makuini and the Uncles; Aunty's Garden; traditional knowledge and scientific experiments; ALMAC; state agencies; investment flows and research projects; state agencies; collective experiments; research organisations; chefs, restaurants, recipe books and supermarkets; marae, whakapapa and hapū; hui; seed-taewa; Psyllids; the internet; stories; indigenous actors in other countries; kumara and other potato and vegetable economies; Māori organisations such as Māori Women's Welfare League and Kohanga Reo; and much more. These comprise multiple dynamic and even expansionary inter and intra-relations and networks for the

circulation of taewa across diverse nodes and encounters and yield a diverse economic life of taewa.

The shape and boundaries of taewa economy are emergent and challenged by intra-relations and articulations with other economies. The chapter points to moments of expansion and contraction and the associated temporality of economy. It points also to the negotiations and relations required for things to flow between actors. There is an unevenness to this, as exemplified by the work of NR and his extensive relations to Māori, industry, and state and research organisations that have given Tāhuri Whenua particular privileges and enabled taewa economy to proliferate. It is unlikely that all this could have been possible in his absence, although careful stewarding on his part means that a next generation of mediators are now able to negotiate new lines of expansion for taewa economy. Aleise Puketapu, Moana Puha and Turi McFarlane, all young Māori scientists and horticultural leaders, now speak for Tāhuri Whenua on marae and are the principal investigators on research projects and bids. It will be for them to ensure the future of Tāhuri Whenua and maintain its momentum by enrolling young Māori and working with whānau and hapū to decide what is best and most practical for keeping taewa alive and Māori growing them.

The taewa economy is alive and vibrant, and not capitalist. Māori still grow taewa enthusiastically and there are new taewa growers, new research projects, new relationships and new possibilities. While still a marginal economy, Māori do taewa circulation largely on their own terms supported by Māori organisations and their capacity to attract investment from elsewhere, and they exchange taewa according to values qualified by their own cultural values. Tāhuri Whenua mediates an economy constituted by articulations among Māori economy, capitalist economies and the emergent Taniwha economy. In Callon and Mitchell's terms it disarticulates power and reconfigures projects for other worlds (i.e. taewa economies). In being able to steward this articulation such that Māori create meaning and value, Tāhuri Whenua illustrates the extended potential of Gibson-Graham's notion of post-capitalist politics. The taewa economy makes hope visible, but not as an economy radically separated from others.

***Final words: News of Uncle Jimmy's death***

*Nick Roskrige informs me of Uncle Jimmy's death on the 10/08/2014. I reflect on Uncle Jimmy's work for the taewa economy and for giving me a space to encounter this (his) world. We shared numerous moments (i.e. car drives, hui, garden, marae, kaumatua flats, correcting my pronunciation, warning me not to use the name urenika around Rangitikei, gifting taewa to people, singing, powhiri and talking taewa tales over weetbix, cookies and chocolate). He generally always had taewa (and other Māori vegetable seeds) and stories to share with those he encountered. He never expected anything in return, unless it was some other Māori vegetable seed. Most the seed I moved was either from or brought to him. In a large part, he made my journeys possible. He introduced me to people, he encouraged me to speak on the marae (and that I had something Māori wanted to hear), and he defended my presence in Māori worlds to other Māori. He once told me about the story attached to karuparera (also known as kowiniwini) and the mauri of that spud to him, 'through the eyes of this potato my tupuna can see me, I them, and future generations', I hope this story runs true for him and his whānau. He has immense mana, is a champion of Tāhuri Whenua, he kept taewa alive.*

## Chapter 6: Economic experimentation in Māori economies: Aunty's Garden and the articulation of Māori vegetables in other economies.

The account of Tāhuri Whenua in Chapter 5 demonstrated how collective experimentation and situated assemblages are mobilised to expand the circulation of taewa and other Māori vegetables – an account of economy-making. This chapter focuses specifically on Aunty's Garden as a collective market-making project. As such it informs ideas on economic experimentation and marketisation with particular reference to articulating Māori economies with capitalist economies. Aunty's Garden is understood as a collective experiment to take Māori economy 'to the market' by constructing new channels of circulation. This chapter will investigate the *work* (performativity) of grassroots market making ideas, as well as the more familiar and unfamiliar ideas and objects mobilised in the experiment (technology, exchange practices, standards, rules of participation and so on).

Aunty's Garden is an experiment in diverse Māori economies. It sought to assemble Māori vegetable growers (and other Māori producers) under the auspices of a network and brand for the purpose of enacting new exchange possibilities across Māori and capitalist economies. Aunty's Garden shares a similar (and increasingly familiar) trajectory with a number of recent Māori making-market projects that bring together small scale community enterprises into articulation with capitalist economy. Iwi, Trusts and Asset Holding Companies have sought to explore opportunities to enable the articulation between Māori and capitalist economies. Aunty's Garden sought to establish a nation-wide network of Māori producers and a virtual market platform that brought Māori producers and Māori products *to the market*. The project assembled iwi and state investment, experts, growers, produce, technology and the internet to enact new exchange (commercialisation) opportunities and build pathways for the wider circulation of Māori products across and between diverse capitalist and community economies. Taewa economy is part of this experiment. The Aunty's Garden case demonstrates how experimentation is central to expanding economy. The project assembled and set in motion a host of unfamiliar people and devices to try and build a market platform for Māori producers that assembled different sites and practices of exchange – it was a new approach for Māori economy.

The Aunty's Garden account is significant for understanding taewa economies (and Māori economy). It illustrates new assemblages, emergences, journeys; the situatedness of collective economic experimentation; the diverse devices (actors), platforms and relationships at work in the articulation of different economies; and the tensions that emerge from knowing-doing economy differently. Each of these is economy and market-making. The chapter presents a genealogy of Aunty's Garden as a collective experiment in economy making from its conception, construction, and implementation to its completion. The chapter describes the actors, moments and

relationships that have mattered in its emergence and subsequent post-project life. The account explores the key relationships between actors and the trajectories of the experiment.

## 6.1. Aunty's Garden: an overview

*Kahungunu Asset Holding Company Ltd has developed an exciting and innovative initiative to encourage the sustainable development of Māori land through the establishment of a premium Māori-based brand to take Māori produce and products to market (Kahungunu Asset Holding Company Ltd 2009).*

Aunty's Garden (AG) assembled a collective of Māori producers in what can be understood as an economic experiment in market-making. At its core AG sought to enact an internet-based market place for a (created) nation-wide network of Māori producers and their products. Developed in 2008 it ran until 2012. The project was inspired by an 'Aunty', a female Māori elder who grew Māori vegetables on Māori land. It was initiated and funded by Kahungunu Asset Holding Company (KAHC), with additional support from the Māori Economic Taskforce (MET) and Te Puni Kōhiri (TPK). A diverse set of actors constructed AG across its development and operation, including Māori organisations (Tāhuri Whenua, Te Waka Kai Ora), Māori-State entities (MET), the State (TPK), public relations consultants, web developers, Māori growers, and professional consultancy services (PWC). AG aspired to connect, promote and support Māori and other authentic growers/businesses who produce food, beverages and other goods and services (e.g. Māori art and craft, health products, tourism enterprises and hospitality) from the utilisation of primarily Māori lands, waters and seas, and create pathways for Māori entrepreneurs to deliver their products to market (Aramanu Ropiha, quoted in Boyes 2011).

AG was developed within the tribal authority structures of Ngāti Kahungunu iwi. The idea and its web manifestation was legally owned by KAHC, Ngāti Kahungunu's asset holding company established to manage and reinvest assets returned to it as part of its Treaty settlement for the benefit of the iwi. As with other such corporations or trusts, KAHC has turned its attention to establishing marketing channels for smaller Māori enterprises and to managing economic development for their people in regional development terms, often in conjunction with state economic Maori development agencies. They have become Māori regional economic development agencies. AG thus drew upon and was informed by relationships to the Crown, the MET (via TPK) and the Brand Māori project, as well as Tāhuri Whenua. Indeed, KAHC proclaimed it as 'a business concept to better utilise our land and create value for our people' (KAHC 2009).

Nonetheless, the initiative itself was largely inspired by small Māori producers on the ground, Māori vegetable growers who either produced food for markets and/or traditional exchanges (i.e. growing food for whānau and the marae). They sought to develop a commercial Māori brand and mobilise digital technology to connect with consumers. The name drew on the inspiration of the 'aunties', women elders:

... who work tirelessly to support their whānau, retain their traditions and hold fast to the land of their ancestors ... our aunties, the wise women who have tended the gardens that put kai on our tables for generations. It seems to us that the spirit of our aunties is more important than ever. It's time to get back to basics and have a relationship with the people and the whenua (land) that grow our food (Aunty's Garden – Facebook page).

AG is an open collective to all Māori food producers and service providers who utilise land, sea and water resources. As a platform it was seen as connecting these people to 'the market' via a website, [auntysgarden.co.nz](http://auntysgarden.co.nz), where they could sell their products directly to consumers. Each Aunty would receive an individual profile and be able to tell their 'story' about themselves and their products on the website. AG enlisted social media devices (i.e. Facebook, Twitter and YouTube) as supplementary support devices. To recruit Aunties, organisers met with growers at marae-based hui and drew on relations with Tāhuri Whenua and Te Waka Kai Ora to access Māori horticulturalists. AG was pitched within a broad vision for Māori economic development, one that involved 'linking our most precious resources, our land and our people'. It claimed to offer 'potential and choices' by creating opportunities and complementing existing Māori enterprises. AG would:

- allow growers to capture wealth normally going into the undifferentiated supply chain;
- provide an overarching Brand that adds value to listed product brands;
- allow cost effective offerings to the market such as tourism, accommodation, discussions with growers, cooking/eating with growers etc. that is managed by simply updating the website on Aunty's Garden and sending blogs/event updates to interested parties; and
- spread wealth and economic benefits to the many at the coalface and by this triggering by example additional participants (KAHC, 2009a).

The AG website would connect Māori producers with buyers for their produce in markets around New Zealand and the world. The website as a market platform promised to offer Māori significantly lower entry costs to the market. And, become a place where individual Māori entrepreneurs, or entrepreneurial collectives, can do business on their terms. KAHC claimed, 'we think of Aunty's Garden as Trade Me (an online market-place similar to Amazon or Craigslist etc.) meets a nationwide virtual farmers market' (KAHC 2009a).

## **6.2. Knowing Aunty's garden: journeys and encounters**

Beyond this official narrative, however, AG was and is so much more. Coming to know this was a journey of my own journeying with Tāhuri Whenua. I encountered the AG project through taewa and growers at a Tāhuri Whenua AGM at Rata marae in 2009. Aunty Hanui (from section 5.4.4), along with Aramanu Ropiha and Christopher Brown, presented the Aunty's Garden concept at this hui. It is with Hanui, Aramanu and Tāhuri Whenua that I came to journey with AG between 2009 and 2014, and know it as economic experimentation within the taewa economy.

I came to know AG through a set of encounters with its defining moments and trajectories as I journeyed with taewa. I present these as a set of key trajectories that constitute the knowing-doing of economic experimentation: Aunty’s Garden in proposal; constructing Aunty’s Garden; the website going live (Aunty’s Garden in practice); and Aunty’s Garden contraction. These trajectories trace genealogies of the emergence, proliferation and decline of Aunty’s Garden and highlight different dimensions of its experimentation in market-making. Each involves different co-constitutive moments in which AG came to be as a spatial and temporal assemblage, and points to key overflows.

Journeying with AG in this way is informed by my encounters via Tāhuri Whenua (and its members), which led to an invitation from AG project leader (Aramanu), promoter (Ben) and foundational Aunty (Hanui). Information was then drawn from multiple sources: in-depth-dialogue, hui, conversations with growers (some Aunties), government documents; newspaper articles, project documents, and AG’s website, social media platforms and blogs. My encounters with aunties and others involved in the project included in-depth dialogues and witnessing presentations in hui. These encounters stretched from when AG was an idea, to its inception, recruitment and practice phases, to reflections of what caused the experiment to ‘fail’. Additionally, Aramanu shared with me the constitutional documents of AG. Table 6.1 illustrates a history of the project as object. It makes visible my journeys and the encounters, actors and learnings that matter in the project’s emergence and subsequent post-project life. The table presents AG as constituted as parts, it is a genealogy, and I focus in on the new journeys, emergences, happenings. Each journey as an object of analysis reveals a different thread to the AG story presenting it in a different way, and provided the basis to investigate AG’s genealogy and experimentation practices.

**Table 6.1 Journeys and encounters for knowing Aunty’s Garden.**

Knowing AG	Encounter(s)	Actors	Learning(s)
Journey 1. AG In Proposal	In-depth dialogues, Hui, Project documents (Aunty’s Garden Concept, Commercial Opportunities for KAHC, PWC Feasibility Study); Government documents – MET, BERL, TPK; and Hui – Tāhuri Whenua AGM (2009).	Aramanu Ropiha, Christopher Brown, Arohanui Lawrence, MET, KAHC, BERL, TPK	AG is situated in: State-Māori economic development discourses and investment; aspirations in diverse Māori economies; multiple and different economic imaginaries
Journey 2. Constructing AG	Website – auntsyngarden.com, auntsyngarden.co.nz; In-depth dialogues (Aramanu, Ben, Hanui); Social media (Facebook, Youtube, Twitter), Māori organisations (Tāhuri Whenua, Te Waka Kai Ora); Hui (Tāhuri Whenua, Te Waka Kai Ora)	Aramanu Ropiha, Arohanui Lawrence, Ben Barber, Nick Roskruge, The Uncles, KAHC, Tāhuri Whenua, Te Waka Kai Ora, computers, social media websites, AG merchandise.	Constructing AG: building infrastructure, generating attachments between AG and diverse Māori economies, injecting new things into diverse economies, relationality to other Māori institutions.
Continued next page			

Knowing AG	Encounter(s)	Actors	Learning(s)
Journey 3. AG Goes Live	Website (auntysgarden.co.nz); In-depth dialogues (Aramanu, Ben, Hanui; hui (Tāhuri Whenua); Conversations with growers (i.e. Hanui, the Uncles, Nick Roskruge); Growers comments at hui (Tāhuri Whenua); Social media (Facebook, Twitter and Youtube); and Newspapers & Magazines	auntysgarden.co.nz, Aunties, consumers, tables, computers, communication technology, media, Ben Barber	Attaching diverse Māori economies and state capitalist economies: devices assembled and revealed diverse Māori economies; made possible articulation; injected new things and circulated things to other economies
Journey 4. AG Afters	In-depth dialogue with Aramanu; Conversations with growers; Hui – Tāhuri Whenua; Social media – Aunty’s Garden Facebook; and Blogs	Aramanu Ropiha, Aunties, computers	What happened: the tension between economic imaginaries; different conceptions of the experiment; different mobilisation of the experiment; the difficulties with the materiality of the experiment, the situatedness of Aunties, Māori worlds project back

Two particular Aunties (Hanui and Tāhuri Whenua) along with the AG internet presence(s) are key presences in all the journeys I describe in this thesis, and are ever-present in all my in-text or in-person encounters with other actors. This continuity of presence provides a framework for making sense of my journeying and its multiple encounters, and the complex and shifting relationality at play in the genealogy of the collective experiment that is AG. AG injected new things into Māori economy, introduced new socio-technical devices for the articulation of capitalist and other economies, and established new relationalities.

### **6.3. Journey 1. Aunty’s Garden in proposal: a genealogy of diverse economic aspirations, imaginaries, actor relationalities, and experts**

The AG proposition starts with Aramanu (the general manager of KAHC) and other KAHC members, who were inspired by the work of their aunties such as Hanui, who utilised Māori practices, knowledge and land to produce vegetables. KAHC wanted to develop a platform to assist Māori producers (e.g. Hanui) to enter ‘the market’. With the support of Christopher Brown (a public relations consultant) and Hanui (a Māori vegetable grower), Aramanu took this proposition to KAHC, TPK and the MET. Aramanu has considerable experience working for Ngāti Kahungunu Iwi Incorporated (NKII). As General Manager for six years, she had managed iwi fisheries interests and played a key role in establishing KAHC, and was well versed in negotiating relations between key iwi leaders and Māori development agencies. Hanui, a Māori gardener on both whānau and marae land, was an executive member of Tāhuri Whenua and a member of Te Waka Kai Ora. Christopher Brown is the managing director of Sputnik, a public relations consultancy, which claims to be an ‘expert at telling stories ... (to) differentiate your brand’ to enhance business (Sputnik 2012).

Together Aramanu, Brown, and Hanui brought into a stable relation Māori economic development (both state and iwi level), place-based brand-making and marketing, and Māori growers and Māori horticultural organisations. While Brown left the project in late 2009 ('he wanted a change' - Lawrence 2009, pers. com), his particular contribution (the Aunty's Garden Brand and accent on provenancing) was embedded within the project. The founding imaginary, projected onto different public AG platforms, was that:

Our inspiration comes from our aunties, the wise women who have tended the gardens that put kai on our tables for generations ... It's time to get back to basics and have a relationship with the people and the whenua that grow our food ... Aunty's Garden is about potential and choices (auntysgarden.co.nz; see Aunty's Garden 2011a).

Aunty's Garden is an exciting and innovative initiative that encourages the sustainable development of Māori land in conjunction with the establishment of a premium Māori-based brand to take Māori produce and products to market (Aunty's Garden Facebook; see Aunty's Garden 2011b).

Aramanu mobilised her relationship to KAHC, the MET and TPK to create lines of investment, which situated AG in relation to Māori-State economic projects (i.e. the taniwha economy and Brand Māori). In her telling of the story, the route from idea to pilot project was challenging as she sought to assemble iwi endorsement, timeframes, expertise and expectations (Ropiha 2010, pers. com). However, she was able to draw on close links with Tāhuri Whenua and Te Waka Kai Ora, which provided input in the concept design and later a space within their organisations to promote and recruit members (Aunties) at hui and on websites. Her ability to enrol national Māori agencies in the AG project and vice-versa was crucial in legitimating and building momentum for AG on the ground at iwi and hapū level.

### ***Taking Aunty's Garden to KAHC: the iwi asset holding company***

AG was very much a Ngāti Kahungunu project to support and encourage iwi to engage in commercial enterprise, and leverage already existing market-making expertise derived from KAHC's fisheries business. Established in 1988 with a mandate from Ngāti Kahungunu to represent them in all aspects of iwi development and Treaty of Waitangi negotiations, NKII in turn established KAHC Limited as a subsidiary asset holding corporation in 2005<sup>33</sup>. KAHC is responsible for managing and investing NKII's assets and any future Treaty Settlement assets on behalf of ngā hapū o Ngāti Kahungunu and Rongomaiwahine; and for the subsequent and distribution of proceeds across the iwi. AG was envisaged as a commercial project to create additional value for the iwi's fisheries

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<sup>33</sup> Under the Māori Fisheries Act 2004 that enacted the Sealord Deal settled in 2006. The Sealord Deal was a Treaty settlement arrangement between the Crown (represented by the New Zealand Government) and a number of iwi, which saw the latter issued with significant quota licences and shareholdings in New Zealand's fisheries. This Treaty settlement is not the settlement of all Ngāti Kahungunu's claims, but has provided the iwi with a significant resource base for establishing iwi businesses.

businesses and smaller scale primary industry producers. KAHC supported AG providing both a premises within the KAHC offices and investment. Ngahiwi Tomoana (Chairman NKII) stated:

... [Aunty's Garden] ... is about harnessing the power of Māori entrepreneurship for economic development. There are hundreds of Māori businesspeople growing and making natural products from the land and the sea throughout the country ... our aim is to connect the producers directly with urban consumers and to give our people more of the end value of the products they make and grow (Tomoana, May 2011; cited in Nobes 2011).

### ***Taking Aunty's to the State: resituating Aunty's Garden for the Māori Economic Taskforce and Te Puni Kōkiri***

The AG proposition was thus connected to Māori development initiatives, commercialisation imperatives and associated expertise and the awakening of the *Taniwha Economy* (see Chapter 3, section 3.1.3). The economic imaginary bundled together discourses pertaining to entrepreneurialism, commercialisation, technology, and branding. Each represented Māori as ready, able and willing entrepreneurial subjects to 'take advantage of market opportunities' – Māori were considered as being homoeconomicus 2.0 actors (see Chapter 3).

The AG concept was developed at a time when the MET had been established as a prominent national economic development agency to facilitate Māori economic development in the 'after' neoliberal terms of steerage, guidance and market promotion. At the state level the concept of a Brand Māori was gaining momentum. The logic behind this project was that Māori had extensive resources, and Māori branding added new and distinctive provenance value. MET had numerous projects aimed at building and strengthening the Māori economy (e.g. the Marakai and Brand Māori projects), and worked with the State to determine and align Māori development investment. Aunty's Garden sought to leverage these projects to establish various channels of investment (advice, money and expertise), and in turn put itself at their disposal. MET greeted the AG idea with enthusiasm - 'put something together that's to do with Māori branding and we'll invest' (Ropiha 2011). However, the language of commercialisation was always troubled and uneasy:

The economic dilemma of the tangata whenua (people of the land) is well known to all Māori. Our greatest resources - our people and our land – are rich with economic potential, but difficult to unlock (Aunty's Garden, 2011b).

The AG proposal was worked at through a number of meetings between Aramanu and MET members. It was jointly funded by TPK (MET) and KAHC. As a condition of TPK investment, MET members would mentor AG organisers in Māori enrolment commercialisation strategies. Interestingly, while other proposals/projects supported by the MET generally saw the Chair of each Iwi Incorporation (a number of whom were also members of MET) appointed 'champions' for projects in their tribal areas, Mark Soloman, then Chair of Ngāi Tahu Incorporated, acted as project champion for AG.

### 6.3.1. Aunty's Garden 'on paper': a relational assemblage of imaginaries

AG had various in-text *paper* manifestations, which assembled MET-State, Māori capitalist, and diverse Māori economies, imaginaries. The three key manifestations are as below.

#### ***In-text manifestation 1: Aunty's Garden full concept***

KAHC's (2009a) concept plan pitched AG as *an initiative to encourage the sustainable development of Māori land through the establishment of a premium Māori-based brand to take Māori produce and products to market; and to foster Māori entrepreneurialism by overcoming the entry barriers of poor access to markets and capital*. The project aspired to create and share value amongst collective owners of Māori land. As a national network, AG would connect *Māori producers (primarily produce growers<sup>34</sup>), unique Māori products and Māori and non- Māori consumers via the internet*. The network and internet presence *would* enhance Māori exposure to markets and lower market entry costs. AG would provide a place where *individual Māori entrepreneurs, or entrepreneurial collectives, can do business* (KAHC 2009a). In this way, AG was positioned as a research and development project to 'create value' for Māori through seven core propositions.

*One, protect Māori land assets from future degradation by overuse, unsustainable utilisation (i.e. leaseholds - dairy and forestry), neglect and alienation.*

*Two, provide an incentive for the conversion of Māori land to optimal use in a sustainable way, improving the productivity of land by creating a range of pathways to market for sustainably produced 'Māori branded' value added food (links to MET project).*

*Three, the creation of economic development opportunities for whānau, hapū and marae and business opportunities on their own land, for individual Māori landowners (likewise it later targeted collective land ownership).*

*Four, provide a framework to implement the KAHC investment strategy to support 'commercial' aspirations – engaging whānau, hapū and iwi entities (formal and informal, large and small) and bringing together existing projects in the areas of Māori land and food production with resulting synergies to achieve cultural, environmental, social and economic outcomes.*

*Five, provide unique commercial investment opportunities for iwi, as well as providing a catalyst for co-iwi collaborative investment.*

*Six celebrate Māori values with all New Zealanders.*

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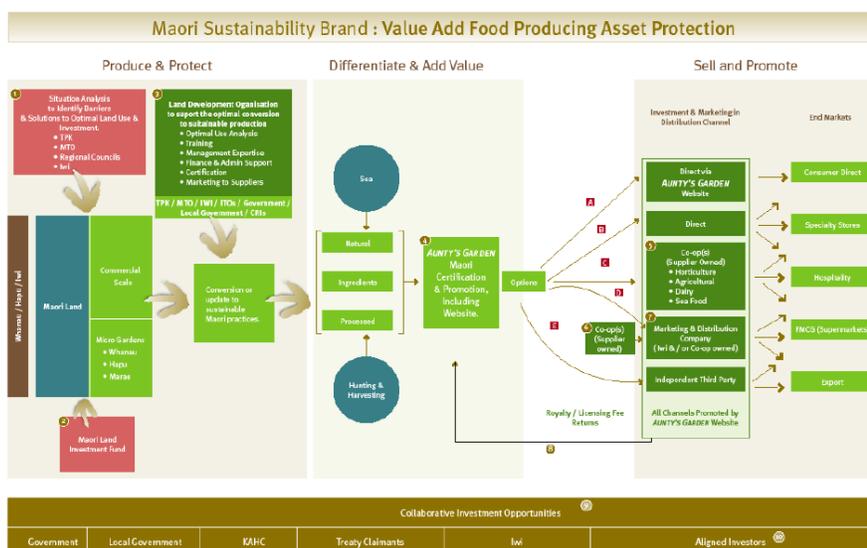
<sup>34</sup> Producers also included food processors and other businesses *that sustainably utilise our natural resources to produce, market and sell uniquely Māori products* (KAHC 2009a).

And seven, create tourism opportunities based around authentic, experiential and indigenous experiences involving food (Hanui mentioned the possibility of attracting tourists from cruise ships to visit and have a kai at Waipatu marae) (KAHC 2009a).

In these propositions, however, it is clear that these values represent a range of hapū, iwi, Māori and New Zealand aspirations that are far more than merely commercial. Rather, they are at once economic, cultural and social. They illustrate a moral economy that articulates capitalist and non-capitalist, to which I return below.

The proposed project included a feasibility study to investigate creating a Māori brand, and a pilot project, which would feature a network of Māori produce growers and entrepreneurs and which took AG into the wild. Different technologies (i.e. the internet and a website) were proposed as devices for Aunties [and the AG brand] to establish direct grower-to-consumer relationships, to support and learn from each other through a virtual and physical grower-to-grower network, and to promote their produce through a process of provenancing and certification (telling and validating their story and the story of their produce). Positioning a vision of AG in this project appeared to commercialisers to set it within a supply chain logic. It was assumed this would follow already established fishery supply chains, whereby producers (and products), distribution networks, markets and consumers were already in place – a linear logic to production and consumption. However, AG was enriched by the moral economy of its founding propositions and pitched to incorporate all Māori vegetable growers, some with stable enterprises but many without. Some Aunties were just starting to produce vegetables, many growers were located in remote regions, and some had minimal market-entrepreneurial aspirations. As such, from its inception it transcended commercial and supply chain logics - its growers were more disparate, less disciplined and more 'wild', while its vegetables were more-than commodities. Figure 6.1 illustrates the proposed 'supply chain' from production through brand to the imagined new markets (see Appendix C for larger version).

**Figure 6.1. Embedding Aunty's garden into the supply chain**



### ***In-text manifestation 2: Commercial logics***

From a commercial logic AG was positioned as an add-on to existing KAHC supply chains, and as a brand-making experiment to add-value to all KAHC enterprise. AG would initially be free for growers as KAHC would absorb the associated advertising and marketing costs. It was envisaged that KAHC would generate revenue over time by charging a subscription fee and transaction fee, and licencing *appropriate suppliers* to use the AG brand. Three particular examples of revenue generation were highlighted:

- Some Aunties (e.g. small scale producers such as Hanui) may never pay to list on the website, but larger 'for profit' business operations pay a listing and a transaction fee.
- E-commerce facilities and inventory management service are available to all at a commercial rate but not one that *strangles participation*.
- Aunty's Garden certification is available to larger players and Aunty's Garden approved suppliers (e.g. consultants, fertiliser providers, logistics providers and couriers) pay a fee for the status (KAHC 2009b).

Additionally, KAHC could also lease banner space and allow companies and organisations to advertise on the AG website, and charge more established Māori businesses a service fee for using the site.

### ***In-text manifestation 3: Organisational logics, the PWC feasibility report***

Increasingly, parties seeking funding for economy-making projects are required by either funding bodies or financiers to commission professional consultancy services - *experts* - to undertake in-depth and external feasibility studies. KAHC provided seed-funding for concept development, and in order to receive additional KAHC and TPK investment (via the MET), AG required expert certification of project feasibility in 'the market place'. KAHC contracted management consultants PriceWaterhouseCoopers (PWC) to externally evaluate AG's viability. PWC completed its report in October 2009 (PWC 2009). This example of making Māori economy calculable is commonplace as professional consultancies have targeted Māori business and sought to embed themselves within the Taniwha Economy. PWC is one such company, and has a dedicated department (the Manukura Māori Business Team) to 'help' 'iwi, Māori organisations and businesses achieve their cultural, social and economic aspirations' (PWC 2012). They aim to be New Zealand's preferred business advisor to iwi, Māori entities and businesses.

PWC were instructed to 'provide an external and unbiased opinion from independent evaluation, review and judgement, and facilitate the technical nature of the complex analysis required to complete feasibility studies'. They prepared a feasibility report - 'scoping paper' - which outlined *the* process required to complete a full feasibility study (see Figure 6.2). This also included the *ongoing* role of PWC and 'other professional services'. This moment proved both critical to the launch of Aunty's Garden and the enrolment of experts in framing the next iteration of the project. The PWC report saw value in the AG proposition and their endorsement legitimised KAHC and TPK investment. They claimed it was 'an exciting opportunity for Māoridom':

... another concept that aims to add further momentum to this important groundswell (the commercialisation of Māori resources i.e. fisheries) within the Māori economy by using the internet to remove barriers to entry and support existing commercial ventures for Māori entrepreneurs (PWC, 2009).

**Figure 6.2 The PWC ‘Experts’ perspective on Aunty’s Garden**



### **6.3.2. Journey 1: Narrating Aunty's Garden as 21<sup>st</sup> Century capitalist cooperative: projects, experts and ideas from 'elsewhere'**

In summary AG was assembled by KAHC in line with Taniwha economy aspirations and given shape by the MET and TPK and underlying economic experts (i.e. BERL and PWC). Extending the aspiration of supporting Aunties and attaching its foundational propositions, however, the project came to represent a cooperative, moral economy market-making experiment. There were different levels of aspirations, expertise and different economic imaginaries at play. AG came from different places – different somewhere that could (and would) become mobilised 'elsewhere'. The 'elsewheres' were reasonably known to certain actors and this was reflected in many of the project aspirations, but preparation for market remained an economic imaginary with significant traction. These competing imaginaries presented capitalist market economy and diverse Māori economies as seamless.

## **6.4. Journey 2. Constructing Aunty's Garden: infrastructure, devices, practices and Aunty's**

At the start of 2010 AG received KAHC and TPK investment. This funded a six month pilot project. As quoted in AG's proposal to Māori (Aunty's Garden 2010): *The pilot project will establish AG, its brand, website and networks ... It also includes a feasibility study that will determine the viability of future stages of development.* KAHC would evaluate and determine the future of AG based on its ability to demonstrate the creation of an income stream for KAHC. KAHC invested financial capital, personnel and premises in AG. In this section I outline Aunty's Garden as a strategic experiment.

### **6.4.1. Aunty's Garden Limited: a corporate vehicle**

KAHC registered Aunty's Garden Limited (2381733) with the NZ Companies Office on the 26<sup>th</sup> day of January in 2010, under the New Zealand Companies Act 1993. KAHC were the sole shareholder, and KAHC is owned by NKII. AG's head office was located within the KAHC premises in Hastings. Aunty's Garden was initially directed by three directors, each also serves as KAHC board members in chairman and director roles. The directors had backgrounds, current interests and existing directorships which cut across a number of commercial interests: Māori fisheries, aquaculture, property, health services, seafood companies, communications, information technology, engineering and consumer goods.

### **6.4.2. auntysgarden.co.nz: a device and virtual platform**

The internet was the proposed device to take AG and Māori to the market. KAHC contracted a web development company to develop AG's virtual manifestation. The internet promised to provide both the profile for AG and relatively low cost option for Māori ['Aunties'] participation; provided they had access to a computer and the subsequent computer skills. AG would provide a profile page for each Aunty. To support Aunties and their page creation, they provided informational material both in-text and in Youtube videos (accessible via AG's Youtube channel). The first iteration of the website was auntysgarden.com, later becoming auntysgarden.co.nz.

The AG website needed to cater for at least 100 Aunty sub-pages. Aunties would each tell their own story on their own page and be responsible for updating their product profiles. The website would be a platform to allow Aunties to tell 'their story', promote their products and make contact with other producers, while at the same time providing a place where consumers could visit and select from the many and varied products available. As such the website was envisioned as an online directory of Māori producers and suppliers of consumables, and becoming, a distribution point, once the brand had established a constant supply of products, where supermarkets could conduct large purchases. It needed to be relatively easy for Aunties and consumers to navigate, and to be open to consumer posts to broadcast product requests that would be actioned by the AG marketing personnel. Consumers would contact an Aunty directly to purchase and pre-order products. This was envisioned as a means to better enable Aunties to produce, harvest and supply

known quantities and avoid waste from unsold product. Their goods would be immediately available.

The website also linked to AG social media pages (the idea of the PR consultant). Featured 'Products' or 'Aunty's' announcements appeared on all web platforms/devices (i.e. Facebook and Twitter). The website would be provided to growers free of charge, and could generate a possible revenue stream for KAHC, whereby advertisers would be able to lease banner space. Advertisers could include Māori organisations, Government programs (MOH, TPK, MSD, MED and MOE)<sup>35</sup>, District Health Boards, charities, and community groups. The entanglements of the social, economic and cultural, state, business and community became immediately apparent, even if expressed in a relentlessly business-like language that disguised more or less wilfully the non-commercial bases of the project and many aspects of Māori economy more broadly. The game was being played on a board structured by commercial (and commercialising) imaginaries.

AG was assembled and situated to take Māori to the market and extend the opportunities for Māori producers to become known to each and to others.

Aunty's Garden is much more than a website for vegetable growers and food producers. While the web-based network will be the starting point, it has the potential to propel the Māori economy into a new and exciting period of development in a way that celebrates indigenous people and products, within New Zealand and overseas (KAHC 2009a).

The website was the market device to bring together, make visible and project AG (and Aunties) to consumers.

### **6.4.3. Employees: enrolling Māori to *work* Aunty's Garden**

Using KAHC and TPK investment capital, AG employed a marketing and promotions officer, to enrol Māori, and a web support officer, to manage the AG website. Both positions were short term contracts, reviewable upon the pilot project outcome. In May KAHC (2010) advertised a six month fixed term employment vacancy for someone with sales and promotion experience. I accessed this advertisement through a Tāhuri Whenua email to its members. It pitched AG as an 'exciting and innovative initiative of the KAHC', a 'long term development project' and 'the establishment of a premium Māori-based brand' to take Māori to the market. The person would promote and manage the website, network and brand, and recruit Aunties: the position was situated between AG (KAHC) and Aunties. In brief, they would 'introduce, recruit, train and support growers and suppliers to join the AG website, networks and brand', by drawing from their expertise in sales, relationship-building, information technology, and communication (i.e. person-to-person, email, social networking, presentation, and preferably, Te Reo Māori). They would demonstrate a track record of project completion, project management, a focus for detail, accuracy and good documentation presentation, and an outgoing personality. They would be personable, energetic, passionate, self-

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<sup>35</sup> Ministry of Health, Te Puni Kōkiri, Ministry of Social Development, Ministry of Economic Development and Ministry of Employment.

managing, motivated and driven to achieve, able to work from home and travel, and be creative. This position was filled in August 2010 by a member of Ngāti Kahungunu, Ben Barber, who eagerly set to work building the profile and credibility of AG across Aotearoa and enlisting Māori growers/suppliers.

The posted vacancy revealed a number of internal and external relationships to the project. AG sought to build on existing relationships and develop new relationships. Internal relationships (stakeholders) included the KAHC Board, TPK, the project manager (Aramanu), and AG growers and suppliers. External relationships included the Aunty's Garden Steering Group (a panel of experts and mentors), Ngāti Kahungunu Iwi Incorporated Board, the Service Supplier to the project, and Māori organisations (i.e. Tāhuri Whenua, Te Waka Kai Ora, the Federation of Māori Authorities, the Hawke's Bay Māori Business Network, the Hawke's Bay District Health Board), and Iwi and other Māori Asset Holding Companies and Trusts. The post detailed project objectives and measures of success. The first objective was to enrol aunties, to which Barber responded by implementing a communications strategy. This involved creating a database of contacts and resources; developing promotional material, training and support manuals and other resources for growers and suppliers; giving 'targeted' presentations to individual growers, suppliers, grower groups and hapū at conferences, hui and marae; and promoting Aunty's 'expectations' and 'standards' and gain growers' commitment to these procedural elements. He would also *work* with growers, providing training and support in social networking and communications. The second objective was to 'build profile and credibility of the AG project'. This required Ben to develop a promotions strategy (to be informed by the PR consultant), overseeing completion of the website (and its launch), and developing logo and promotional tools for growers and suppliers. Similar to objective one, Ben would engage Māori at hui, conferences and other forums. Additionally, he would maintain the network profile and continuously manage website and promotions, and identify any Intellectual Property threats and opportunities. Success would be measured by:

1. Having 100 Aunties enrolled;
2. growers and suppliers are engaged with the Aunty's Garden website and network and understand the potential impact of Aunty's Garden to their business;
3. Aunty's Garden is widely promoted and understood by whānau, hapū iwi, like networks and business - and consumer interest is rising'.

The project would be a success:

1. If 80% of the proposed 100 growers and suppliers actively participated in the network and provided a positive evaluation of their experience.
2. The website launch attracted local, regional and national coverage, and generate 'XX' hits to the website.
3. Aunty's Garden would receive media inquiries from business, science, training sectors and attract investment inquiries and positive media coverage.

Failure would be 'low uptake by growers (less than 50% of target listed within 6 months), low interest in Aunty's Garden, and no funding secured to complete the feasibility study'. These

successes and failures both point to how the project had to become situated in diverse Māori economies.

#### **6.4.4. Expectations and standards: instituting procedures and performing a brand**

AG enrolled Dr Rangimarie Turuki Rose Pere's Te Wheke (see Pere 1991) concept to institute the 'expectations' and 'standards' of Aunties in order to construct the AG brand. KAHC also applied the Te Wheke concept as the overarching principles of the AG project (KAHC 2009a). Dr Pere is an influential Māori educationist scholar and practitioner in Māori affairs. Te Wheke (or the octopus), she claims (as told by Love, 2004) is knowledge that comes *through* her not *from* her, and is a gift to the world. She gifted Te Wheke to AG as a guiding concept to enact the expectations and standards of growers. KAHC perceived Te Wheke to be practical as well as esoteric and presentable to a non-Māori and Māori public, and to be a concept that would resonate and relate to growers and consumers. The point here is that in developing the objectives the project had to become situated.

Te Wheke is a conception of individual selfhood as intertwined and inseparable with the health of the whānau, hapū and/or iwi.<sup>36</sup> Table 6.2 illustrates what the heart and tentacles represented in terms of AG's principals and expectations and standards of Aunties. Te Wheke instituted an ideology of practice and associated set of protocols for practice. The heart is composed of whakapapa, practice and economic development, or a grounded and purposeful value system for guiding production and distribution that delivered an appropriate place-based sustainable development. The tentacles are representative of values, customs and practices. In order for growers and consumers to learn Te Wheke, the concept was promoted to would-be Aunties, Aunties and publics (consumers) at hui and on AG's web devices (i.e. [auntysgarden.co.nz](http://auntysgarden.co.nz), Youtube). The youtube video presented Dr Pere, who explains Te Wheke's relation to food, people, land, plants, animals and all living things. She encouraged Aunties to consider what it means to give the best to those people who may purchase their products.

KAHC asked would-be Aunties to declare themselves and their products true to Te Wheke's heart (principles) and tentacles (dimensions) upon AG registration. This would become each Aunties story and made public to AG webpage visitors. The proposition was that these stories created and added value to AG. As quoted:

Our network of growers, food producers and businesses each has a story to share with consumers. It is this story telling that advertises the true nature of their production and the importance they place on the resources they use. The Aunty's Garden network values principles of identity and traceability (Whakapapa), Practice and Production methods (Tikanga), Fair Trade and Economic development (Ohaoha) and encourages the participants

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<sup>36</sup> Pere's concept of Te Wheke has been applied in Māori health development discourses (e.g. Durie 1994). The head and body of Te Wheke symbolise the entire Māori family unit. Its eyes are referred to as waiora, or the well-being of the totality of the individual and the family, in this case the Aunty and their garden. This well-being is relational to Te Wheke's three hearts and eight tentacles, each representing a separate dimension.

on the network to share their relationship with these principles to consumers. We hope consumers will gain more confidence to purchase safe and healthy foods by getting to know those who produce it directly (Aunty's Garden 2010).

AG sought to recruit all Māori, given the difference (of values, traditions and practices) across Māori producers KAHC believed Te Wheke was a loose enough set of standards for the diverse practices and values of Māori producers. Te Wheke would act as a standardising device for Aunties and their presentation (stories) that allowed AG to become knowable to consumers by way of their situated relationality to Te Wheke, and prospective Aunties to make themselves knowable to KAHC. It helped construct and secure the AG brand. Aunty stories were declarations of their relationship to Te Wheke, and asked them to identify themselves and their particular Māori-ness. This played to the notion of quality control and traceability for KAHC, but in a novel and situated way. Anyone with internet access who visited the AG website could know an Aunty and their product, and be assured of the whakapapa and production practices embodied in the produce.

**Table 6.2. The Te Wheke proposition from an Aunty's Garden perspective.**

<b>Te Wheke: Heart</b>	<b>KAHC expectations and principals of Aunty's Garden</b>	<b>The required declaration of Aunty's</b>
<b>Whakapapa: Identity and traceability of food.</b>	Aunties relate their whakapapa by identifying their hapū and marae affiliation, and their ancestral or other connection to the land and their product. Traceability of the product back to its source. Aunty's produce high quality products and are prepared to open themselves and product up to 'consumer scrutiny and their practices to monitoring by Aunty's Garden roopu (group, network).	Identity: Name, iwi, hapū, Marae affiliation (or involvement) Traceability: place of business, garden, shop, gallery etc.; place of sourced food/product/materials sourced, made or grown.
<b>Tikanga and Manaakitanga: practices and production methods</b>	Practices and certification: Aunty's need to declare any production inputs any certification system they work under (certified or not). Hospitality: Aunty's aspire to high standards of health and safety for themselves and employees. Nutritious and healthy: Products must be NZFSA <sup>37</sup> approved (where those standards apply), safe and state nutritional values.	Use of synthetic applications, fertilisers, pesticides. Name certified or employed biodynamic, organic, Māori organic, traditional, permaculture practices. Use of particular philosophies (Māori, Western or other). Ownership structure. List who benefits (e.g. employment, training, income etc.) from your business (e.g. iwi, marae, whānau, community employees). Name the appropriate NZFSA Risk Management Programme number and list the health qualities/benefits of products.
<b>Ohaoha: Economic development</b>	Develop collective Māori assets for the benefit of whānau, hapū and iwi. Explore alternative economies and systems of trade and exchange. Fair trade – a sustainable return for effort. Aunty's receive a fair return for quality product.	Identify any values and practices applied to the generation of an economic base from the resources employed. List current systems employed for the distribution, exchange and/or supply of products (e.g. supermarkets, grocery stores, farm gate, schools, farmers markets, and delivery mechanisms and reach – courier, local, regional, export etc.) List where consumers can purchase products and how much they can expect to pay.

<sup>37</sup> New Zealand Food Safety Authority.

<b>Te Wheke: Tentacles</b>	<b>KAHC expectations and principals of Aunty's Garden</b>	<b>The required declaration of Aunty's</b>
Mana ahua ake: <i>Authenticity</i>	Aunty's and their properties are authentic and unique. They celebrate and extol the absolute uniqueness of their culture and beliefs to establish a crucial point of differentiation vs. mainstream homogenised products.	State what they (growers) consider unique about their property and practices, and how that can be shared.
Mauri: <i>Respect</i>	Aunty's respect and care for the land, seas and waters that produce the food. They demonstrate conservation of natural resources and work to enhance the habitat supporting life force of all living things.	Comment on what sustainable practices they utilised in their production.
Aoturoa: <i>Physical Environment</i>	Aunty's minimise any impact to the natural environment in the production of their goods and services.	Declare current initiatives used to reduce waste, recycle etc.
Whānaungatanga: <i>Community</i>	Aunty's actively participate in the Aunty's Garden network: to grow and strengthen the bond of influence and understanding within the network; and, to be of value to each other and to visitors to the website.	List the networks and/or affiliations and any specialist knowledge or skills they are willing to share with others in the Aunty's Garden network.
Hinengaro: <i>Knowledge</i>	Aunty's value all knowledge and understanding, both internalised and learned Aunty's commit to learning, training (up-skilling), innovation, development and sharing knowledge. Innovation, the creation of new products and methods adds to the Aunty's Garden store of knowledge.	Declare and accomplishments used to develop product and/or increase value to your business.
Wairua: <i>Vitality</i>	Land, water and its products are valued treasures of Aunty's Garden. Aunty's produce optimum products with a life force and flavour defining their quality.	Comment on the health benefits of your product.
Ha & taonga tuku iho: <i>Traditional Knowledge</i>	Traditional or cultural methods employed in producing foods add value to the product. Heritage seed and their product, and the use of traditional methods for growing are valued.	Declare any traditional knowledge passed in from previous generations employed in your production.
Whatumanawa: <i>Integrity of Supply</i>	Aunty's provide accurate and frequent information about their product availability. The most current information supports the integrity of the entire network.	State the availability of goods produced.

#### **6.4.5. Situating Aunty's Garden in diverse Māori economies: enrolling Māori producers**

AG's next challenge was to take the project to the wild (*Aunties gardens*), situate AG within these wilds, and enrol Māori into the economic experiment. AG was first presented at the Tāhuri Whenua AGM, Rata marae (Rangitikei), in 2009 – it was my first encounter with AG on taewa journeys and represented the beginning of a new agencement. Aramanu, Aunty Hanui, and the Chris presented AG in its conceptual form to approximately 60 people. AG was presented as a network, market and brand making project for Māori people and products – in particular it would support small-scale Māori vegetable growers. This proposition was then taken to numerous marae across New Zealand, building on AG's relationship to Tāhuri Whenua and Te Waka Kai Ora.

AG needed to recruit Aunties and ascertain whether or not AG had viability in the wild to progress the six month market pilot project. Throughout 2010, Ben, often in unison with Aramanu, took to the road and presented AG to Māori at various open days, launches, workshops, and hui, including Tāhuri Whenua’s and Te Waka Kai Ora’s AGMs and multi-day hui. These encounters with the wild mostly occurred on marae. The support of organisations and marae were generative of AG’s sites to encounter and build relations with diverse Māori economies (Table 6.3. illustrates the sites of AG engagement). At hui Aramanu and Ben presented AG material (incl. brochures, pamphlets, videos) and offered membership at no cost to Māori. Whilst AG is KAHC owned, they stated *AG was for everyone and could be owned by all* Māori. Additionally, these messages were projected on AG’s various internet devices. The extensive recruitment drive and subsequent attention and interest led to various newspapers, Māori magazines and Māori organisations reporting AG events.

**Table 6.3. Taking AG to the wild and forming situated relations with diverse Māori economies.**

Occasion	Date	Location	Host	Present (myself)
Tāhuri Whenua AGM	3/10/2009	Rangitikei	Rata marae	Y
Tāhuri Whenua Hui-a-rohi	12/02/2010	Kaikoura	Takahanga marae	N
Tāhuri Whenua AGM	18/9/2010	Bulls	Parewahawaha marae	Y
Te Waka Kai Ora	22/09/2010	Mangere	Papatuanuku marae	N (received access to video)
Te Waka Kai Ora	19/3/2011		Papatuanuku marae	
Tāhuri Whenua Hui-a-rohi	3/3/2011	Waitara	Owai marae	Y
Aunty’s Garden Expo	18/03/2011	Hastings	Waipatu marae	N (accessed news reports)
Aunty’s Garden Promotions Tour	March 2011	Multiple locations	Multiple hosts	N
ManaTane East Coast Traditional Food Market	2/4/2011	Ruatoria	N/A	N
Website launch	11/05/2011	Hastings	Waipatu marae	N (accessed news reports & Roskruge 2011, pers com.)

### ***Situating AG in diverse Māori economies: Tāhuri Whenua***

Aramanu, Ben and Hanui presented AG and recruited Tāhuri Whenua members at hui throughout 2009 and 2012. Tāhuri Whenua provided support on a number of trajectories. Nick Roskruge (NR) provided advice to Aramanu and Ben, and supported the initiative through attending open days. Tāhuri Whenua agreed to provide a space for AG at hui. Aunty Hanui was influential as both an executive member of Tāhuri Whenua and the steward of AG. This section looks at one particular instance of AG at a Tāhuri Whenua hui as it succinctly captures the interest amongst Māori in AG and also the challenges of enrolling Māori; there are numerous other encounters (as per Table 6.3), each rich in detail, but for the purposes of this section one account should suffice.

Ben presented AG at the Tāhuri Whenua Hui-a-rohe at Owae marae (2010). There was an audience of around 100 people, who were either members of Tāhuri Whenua or from the marae

and surrounding areas. With a laptop, projector and retractable screen, Ben played a number of promotional videos within the wharenui (sleeping house): The Te Wheke concept, presented by Dr Rose Pere; an AG promotional video, including a variety of Aunties; and the Aunty Hanui video, presented by Hanui. Hanui discussed her AG involvement and vision, and encouraged Māori to join. Ben, Hanui and the videos generated considerable interest amongst the group, eschewing an extended discussion about the opportunities ‘a project like this’ has for Māori. The video was so popular, members of the hui requested an encore screening the next day. Over a kai, Ben, NR, the Uncles and I had a discussion about the project and its progress. Ben mentioned interest was high and Māori were enthusiastic, but it was a challenge to recruit Māori as Aunties. Additionally, attaining a constant supply of Māori vegetables was difficult. NR mentioned most Māori (the ones AG seek to recruit) have their established ways, are not commercial, or are just re-establishing Māori gardens. And, he discussed, that ‘it’s important you (Ben and AG) demonstrate to Māori that AG is not just a Kahungunu project, they need to be able to see themselves in relation to the project’. NR then suggested a number of possible Aunties, who could be keen and grow on a large scale, and also that Tāhuri Whenua could be an Aunty to distribute virus-free taewa seed and informational resources to Māori (see Chapter 5).

**Figure 6.3. AG merchandise as given to Māori at hui.**

**What can Aunty's Garden provide for me?**

- Webpage displaying your produce, products, or service
- The opportunity to promote and profile your garden/business and what you presently supply
- Market exposure via the Aunty's Garden website, network, and brand
- Another pathway to market and increase the demand for your business.
- Become part of a premium Maori-based brand that adds value to your produce, product or business.
- The ability to communicate with other growers for advice or support, a grower to grower network of knowledge and information sharing, joint supply or processing options.
- The network will act as a catalyst to help expose growers to purchasers seeking supply from Aunty's Garden.

Karengo Fishing Adventure  
Kaimoana  
Sailing Tourism  
Freshwater Beverages  
Tangaroa

**How do I join the Network?**

- Visit our YouTube channel to see businesses that have already joined,
- Visit our website and register online,
- Send us an email and we'll send you a registration form with more information,
- Or simply give us a call and we'll help you through the process

**AUNTY'S GARDEN**

www.auntysgarden.co.nz  
youtube.com/user/auntysgarden  
0800 AUNTY G (286 894)  
info@auntysgarden.co.nz  
PO Box 2406 Hastings 4153

*"Welcome to Aunty's Garden.  
We're on a journey to reconnect all the people of Aotearoa with Maori who produce authentic goods and services using our creativity and natural resources of land, waters and seas"*

**PROMOTE & SELL YOUR PRODUCE, PRODUCTS, & BUSINESS**



***Situating AG in diverse Māori economies: Te Waka Kai Ora***

Te Waka Kai Ora (TWKO) the national Māori organic collective was another space in which the promoters of AG sought to recruit vegetable growers and other producers. Aunty Hanui is involved with TWKO and Aramanu became an executive member. This sub-section describes a presentation Ben presented to TWKO at Papatuanuku marae (22/09/2010; accessed via TWKO YouTube channel, see Rawhiti Farm 2010). He proposed AG as a resource for ‘our people’ (Māori) to mobilise resources (people and the whenua are our greatest resources) – Māori are ‘rich in economic potential’. The proposition was framed two-part: the challenge for Māori and how AG provided a resolution. The challenge:

A lot of Māori are unemployed and trying to figure out more ways to earn more money support their whānau. You can spend a lot of money growing your kai, taking it to a farmers market, creating a Māori business, but if you don’t have the markets the margins are not going to be there (Barber 2010, see Rawhiti Farm 2010).

To negate this challenge, AG offered Māori new ‘pathways into the market place and reduced most the barriers to (market) entry and participation’.

He situated AG in commercial terms and its reach into ‘the market’, AG was tapered toward ‘discerning’ consumers.

A lot of people are concerned about the traceability of their kai, the whakapapa of kai. More and more people are concerned about global food, and what's in their food (i.e. pesticides etc.), people are concerned about growing local economies.

The AG website device connected consumers with Māori growers and produce, and Te Wheke acted as a provenance device. Ben claimed AG's point of difference is 'our (Māori) gardens and our produce is all Māori', and consumer would know this through Aunty's 'true story telling' and 'true whakapapa' [Te Wheke]. He proposed this was value-adding because 'conventional marketing and how the market stands now is all based on lies'.

Ben suggested AG would stimulate Māori local economies. 'Aunty's Garden is for all Māori, whether they have small gardens (i.e. residential gardens and marae gardens) or large land blocks, be single, whānau or hapū growers, be on Māori land under multiple ownership, and whether or not they were already established large scale producers (e.g. Biofarm – a Māori dairy business) or micro-producers (i.e. home and marae gardens) who may seek to trade their surplus' (Barber, in Rawhiti Farm 2010). Furthermore, 'Aunty's Garden is about establishing 'socio-economic development' opportunities for Māori at the grassroots and those who have their 'fingers in the roots', and 'Aunty's Garden could generate bigger things for Māori'. He presented an example of how a grower could utilise AG and then apply AG to larger whānau (and hapū) owned blocks of land.

You may start by selling a few tomatoes from your garden on the Aunty's Garden website, but this could give you the confidence to say that you can do this now, and now I'm going to go back to whānau and ask to lease some of that whānau land and grow lots of kai, I know there's a market out there, Aunty's Garden has proven that and now I can go back and do this with my whānau.

Furthermore, AG could prompt other economic opportunities (e.g. the creations of a Māori owned freight company, 'to take kai to the market'). AG was offered to Māori as an experiment in which Māori could learn and create economic opportunities.

Ben introduced the Aunty's Garden website, 'a virtual market place where trademe meets virtual farmers markets', from which Māori and Pākehā could better source Māori produce.

Think about our whānaunga (Māori relatives) when they come back to New Zealand and want something to leave with and buy something authentic (for example some pounamu, rewana bread, hangi, or fresh kai). At the moment they need to know you to get this to be able to leave with something Māori. They can't just go on google to find this stuff... Aunty's Garden will be the search engine for finding everything Māori.

Despite AG being a brand, Ben claimed AG would not erase individual Māori brands [of would be Aunties]. AG provided a platform (or whare) for individual enterprises. Aunties could tell their own story and have their own brand. On the AG website, consumers could search and view different Māori enterprises and products. The internet, he proposed gave Aunties the opportunity to add to existing market channels (i.e. farmers markets such as Otara market), but without cost.

Ben shared examples of how AG could support Māori aspirations. An Aunty represents a Māori school which utilise horticulture to promote education. They cultivate an organic strawberry garden and pupils take the kai (food) home. However, the school sought to create a larger garden (two old football fields). This required additional investment, and they had exhausted the school's māra budget and TPK's Māra Kai investment (\$2,000). AG offered a way to generate income, whereby they could sell surplus produce. This helped the school negate the unpredictable and limited nature of State funds. As such, Ben proposed AG as a device to help Māori become self-sufficient. He accentuated this proposition, in terms of encouraging Māori to rethink how they use surplus produce: 'we can take it (surplus) to the marketplace and earn some money, which can then be re-invested into the garden'. He then offered a marae-based example, a 'marae [may have] harakiki (flax) and a kuia who weaves and then teaches children kids to weave'. This:

presents an opportunity for our kids that don't want to get a job or go to school ... we can bring them back to the marae ... our (AG) objective is to support our marae ... weaving(s) could potentially be sold on AG ... a way to create (marae-based) employment opportunities.

Then lastly, he related AG to the host marae:

You've got the best soil here in Mangere ... grow the kai and sell it to those fellas on the North Shore ... they're the ones that Kahungunu are going to be selling it to ... because they're the ones conscious about their food.

This further emphasises AG as a premium brand, based upon story-telling and traceability, whereby certain consumers seek such food (and ideally will pay more for this produce). To close his kōrero (presentation/dialogue) Ben stated AG 'starts now ... we want to go live with the website in December (2010)' and he sought to recruit as many Aunties as possible.

Both Tāhuri Whenua and Te Waka Kai Ora offered AG a space to situate the project in diverse Māori economies. These nodes gave AG access to Māori growers, and AG utilised them to propose how AG connected to existing initiatives and was a market-making experiment 'for all Māori'. Both Aramanu and Ben noted that these marae-based encounters were vital for recruiting Aunties (Ropiha 2011; Barber 2011).

#### **6.4.6. Aunty's Garden and diverse Māori economies.**

In summary AG constructed an infrastructure and enrolled personal to institute Aunty's Garden in commercial and Māori worlds. AG spent considerable time producing a relationality between object (Aunty's Garden) and the wild (diverse Māori economies). This involved a number of situating practices (i.e. Te Wheke and going to marae). Creating AG involved injecting some familiar and unfamiliar objects into diverse Māori economies. AG was largely prefaced on the website with supporting infrastructure (i.e. internet, computers, social media). Marae encounters provided AG a site to embed AG within diverse Māori economies – these moments sparked considerable interest among Māori and gave AG purchase within these worlds. It is unclear how successful social media

was at recruiting Māori, but they utilised social media (in particular, posts on Facebook and videos on YouTube), there were a number of comments/posts on these sites from Māori saying, ‘great idea’. In particular, growers liked Aunty’s Garden as it was ‘owned by Māori’, which generated an element of trust, it was something new and exciting, yet whilst many were enthusiastic, translating this into becoming an Aunty proved difficult (to be discussed in section 6.6.2). Growers who became Aunty’s largely included those who already had some existing circuits of exchange, AG provided them with an additional circuit of exchange. From this perspective growers also imagined AG as an experiment for their own exchange practices and sought to investigate how AG could enact new and additional pathways to circulate their products elsewhere.

### **6.5. Journey 3. Aunty’s Garden goes live: happenings and movements.**

AG went live in 2011. The virtual market-place ([auntysgarden.co.nz](http://auntysgarden.co.nz)) was launched on the 11<sup>th</sup> May 2011 at Waipatu marae – the quasi home of AG. At this point AG had recruited 100 Aunties. The launch was marked with a celebration and open day at Waipatu marae, which included numerous Aunty’s and their stalls, and celebrity chefs (who used only ‘Auntys’ products), and notable guests Dr Pita Sharples (Minister of Māori Affairs), Dr Rose Pere (Te Wheke) and Dr Nick Roskruge (Tāhuri Whenua), who each gave a presentation on the value of AG for Māori development. As the project went live, there was still a concerted effort on recruiting more Aunties. AG mobilised the subsequent Māori and media interest encouraging Māori to join ‘our movement’ (e.g. Boyes 2011, Jeeves 2011, Nobes 2011). They proposed that the website would give Māori a means to ‘break down the barriers and unlock their potential, by providing producers with a market for their goods’ (Ropiha, quoted in Boyes 2011). This section focuses particularly on the devices, Aunties, movements and rumblings AG generated as the virtual market place went live.

#### **6.5.1. [auntysgarden.co.nz](http://www.auntysgarden.co.nz): an assembling and revealing device**

As a device [www.auntysgarden.co.nz](http://www.auntysgarden.co.nz) assembled together Aunties and their products from across Aotearoa in one place. Most Aunties were located in the Hawke’s Bay and East Cape region. The homepage outlined AG. This featured rotating *Featured Aunty’s* and *Featured products*, announced upcoming events and news, and provided links to AG’s Facebook and Twitter profiles. A visitor to the website could search Aunties by location and by product. Upon selecting an Aunty they would be able see what products were available, when, and how to purchase. Visitors could directly contact Aunties. Additionally to learn more about each Aunty (i.e. see an *Aunty’s Story*) they could read an Aunty’s *about me* and their Te Wheke declaration. Figure 6.4 illustrates the geographical distribution of Aunties, and the website as a device in regard to how it brought Aunties together and how a visitor could search via *Find an Aunty* or *Find a Product*. A visitor could be a consumer and/or another Aunty. Aunties could connect with each other ‘to share advice and support each other’ (Barber 2011, Ropiha 2011).

Aramanu described the website as ‘pathway for Māori entrepreneurs to deliver their products to market’. The website acted as a device assembling and revealing diverse Māori

economies to a broader public. Visitors could learn about where Aunties were located and the types of enterprises Māori had established. The device gave people access to these diverse economies and gave them a means to contact and purchase products (including taewa) directly from Māori. The website built attachments between Aunties and Aunties, Aunties and Māori, and Aunties and consumers. As such, the device acted as an articulating device, which revealed diverse Māori economies and built circulations within diverse Māori economies and to state capitalist economies.

**Figure 6.4. auntysgarden.co.nz: Assembling Aunties and making attachments**

**\* Shop here @ Aunty's Garden!**

Welcome to Aunty's Garden Here you'll find a range of Maori and other authentic producers of food, beverages, goods and services from around New Zealand. Each producer has their own individual Aunty's Garden website that allows you to learn the story behind their production, how they...

[Read More](#)

**Find an Aunty**

This is the find a grower page. Here you can find a particular grower in your area or region around New Zealand...

[Read more](#)

**Find a product**

To find a product, select any combination from the following menus:

Select Region

Select Product Category

Select Product Sub Category

Select Certification

[Search](#)

**1-2 Aunties**

**3-5 Aunties**

**6-10 Aunties**

**AUNTY'S GARDEN**

Home Find an Aunty Aunty's Area About Aunty's Garden To Work Register Search

**Tahuri Whenua**

Home > Top Feature > National Maori Vegetable Growers Collective Contact

**National Maori Vegetable Growers Collective**

Posted on Jan 28, 2014 by 0 comments

**Tahuri Whenua**  
National Maori Vegetable Growers Collective

Tahuri Whenua Incorporated Society is a National Maori Vegetable Growers Collective representing Maori interests in the horticulture sector. The collective was established in 2002 in response to the growing interest by Maori in the continuing production of indigenous crops and to preserve and develop cultural practices. In 2007 Tahuri Whenua became a Charitable trust in recognition of its focus on becoming a non-profit organisation that gives back to the community and its members.

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- Tarawa seed - Maori potato seed

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**About Aunty's**

Aunty's Garden is a network of Maori producers who grow and manufacture food and goods from the natural resources of our lands, waters and seas.

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## 6.5.2. The Aunties

The Aunties represented fruit and vegetable producers, organic producers, traditional growers of fresh produce, foodstuffs, carvers and weavers, accommodation, hospitality and tourism operators, artists, natural (traditional Māori) medicines and practitioners. Aunties could be female or male, a sole producer, whānau, collective or established Māori enterprise, and include anything from a grower selling taewa at the garden gate to large-scale producers. As Aramanu noted ‘what is important is their commitment to tikanga values’ (Rophia, quoted in Boyes 2011). They were located all across Aotearoa, from as far south as Stewart Island to north of Kaitaia. Their products included rewana bread, kawakawa tea, kumara, kamokamo, mineral water, and taewa (Māori potatoes). Along with their stories, Aunties declared the quantities of product they had for sale (e.g. single items, per/kg, bulk orders 50kg+), the price, the delivery options available (e.g. pick-up only, nationwide delivery available, regional delivery available, no delivery options available), their purchase options (e.g. at garden gate, at farmers markets, via phone, fax, email, via online and telephone banking, online website sales – trademe, amazon, urban harvest etc. – or at selected retail outlets – e.g. supermarkets, green grocers or speciality store), the garden address, and their contact details.

The following accounts illustrate Aunties: Aunty Hanui, Aunty Tāhuri Whenua, and a sample of Aunties. In particular Aunty Hanui and Aunty Tāhuri Whenua demonstrate the articulation of taewa into the Aunty’s Garden assemblage and their subsequent articulation into other economies.

### ***Aunty Hanui***

Aunty Hanui, who is the inspiration behind Aunty’s Garden, cultivates two gardens on Māori land, one is on her whānau land (Wairua garden) in Hastings, and the other is a garden at Waipatu marae (Aunty’s Garden) – the showcase and reference point of AG. She had a profile for each garden on [www.auntysgarden.co.nz](http://www.auntysgarden.co.nz). Wairua garden produces Māori potatoes (moemoe, peruperu, kowiniwini, huakaroro, whataroa, urenika, uwhiwhero), fruit (watermelons) and vegetables (kumara, kamokamo, corn). In her *About Me* she told:

‘Wairua’ has been planted every year for whānau and extended whānau to enjoy. Some produce is sold at the garden gate. We were taught by our parents to grow stuff for sales and enjoyment. No sprays are used on our kai or in our maara. A rotation system is used for planting. Everyone helps! The food we grow, we keep our own seeds from season to season. Hard maintenance and a lot of tender, love and care gives the garden its goodness. The ground is fertilised by the birds.

Waipatu Marae produces vegetables, herbs and fruits. Consumers were invited to come to the garden and pick their own produce, as Hanui claimed in her *About Me*, Waipatu:

Arohanui has created a community garden. Waipatu allows the consumer the experience to pick their own kai by wandering through the garden at their own leisure. What’s better than picking your own vegetables?

People would pay via a cash-only koha system at the gate to the garden. The garden was open between summer and autumn. The Waipatu garden also offered a number of open days and events (i.e. cooking classes, tree pruning, garden design classes). Hanui is in the process of adopting the Te Waka Kai Ora certification programme Hua Parakore, for both gardens.

## Aunty Tāhuri Whenua

As an Aunty, Tāhuri Whenua offered seed taewa, t-shirts, taewa books, growing calendars and membership to Tāhuri Whenua. In their *About Me* section, TW outlines the collective and its objectives in Māori horticulture (see Chapter 5), Figure 6.6 presents an example of TW's Te Wheke declaration in terms of values and principals. People wanting to purchase TW products were provided with TW's postal address and telephone number. In addition to product posts, Aunty's Garden also provided TW with a device to advertise upcoming hui. TW featured in Aunty's Garden posts for *Featured Product* and *Featured Aunty*, which were broadcast via the website and social media channels.

Figure 6.5. Aunty Tāhuri Whenua and their Te Wheke declaration.

<h3>Foundation Values</h3> <p>Whakapapa, Tikanga &amp; Manaakitanga, Ohaoha</p>  <p>Whakapapa – Identity and Traceability Chairperson: Nick Roskrug PO Box 1458 Palmerston North Manawatu Phone: 06 356 7589 Mobile: 027 2066850 Email: N.Roskrug@massey.ac.nz</p>  <p>Tikanga and Manaakitanga – Practices, Certification, Hospitality, Nutritious and Healthy Tāhuri Whenua Incorporated Society is a National Māori Vegetable Growers Collective representing Māori interests in the horticulture sector. The collective was established in 2002 in response to the growing interest by maori in the continuing production of indigenous crops and to preserve and develop cultural practices.</p>  <p>Ohaoha – Economic Development and Fair Trade In 2007 Tahuri Whenua became a Charitable trust in recognition of its focus on becoming a non-profit organisation that gives back to the community and its members.</p>	<h3>Core principles</h3> <p>Whanaungatanga, Whatumanawa, Mana ahu ake/Mana Motuhake, Mauri, Wairua, Aoturoa, Hinengaro, Ha, Taonga Tuku Iho</p>  <p>Whanaungatanga – Community Tahuri Whenua is involved in a number of projects at the community, school, and research based levels. One of the most successful projects being undertaken is the “spud in a bucket” project that has been implemented throughout schools and kohanga reo nation wide. The dedication of it's members to help school children get involved and interested in Maori horticulture is rewarded by the increasing number of schools signing up each year to take part in the program.</p> <p><b>The Sustainable Farming Fund (SFF)</b> invests in farmer, grower and forester-led projects that deliver economic, environmental and social benefits to New Zealand's land-based primary industries. <a href="#">Click here to find out more.</a></p> <p><b>The Potato Museum</b>, started (1975) in Brussels, Belgium, is the world's first museum about the potato and features the planet's largest collection about this valuable vegetable. At this website you will find features, exhibits from the potato museum collections as well as interactive modules, teacher and student resources, blogs, and a shop. <a href="#">Click here to read more.</a></p>
<h3>Core principles</h3>  <p>Whatumanawa – Integrity of Supply Produce supply is high during the summer season and can be found in abundance throughout the collective. Tahuri Whenua is able to network through our membership to locate quantity of supply. Contact us directly if you have requests for produce.</p>  <p>Mana ahu ake – Authenticity Mana Motuhake – Diversity of Supply The collective is diverse in age, gender, and geographic location. Our membership is spread throughout the north and south islands of Aotearoa. As such we are more than capable to source for you the most current produce available in your area by our growers.</p>	<h3>Core principles</h3>  <p>Hinengaro – Knowledge <i>The ultimate strength in the collective will be in the size and quality of the membership as this will ensure we are well positioned within the New Zealand horticulture sector and that we can continue to contribute positively to Maori development</i></p>  <p>Ha, taonga tuku iho – Traditional Knowledge Before the primary European settlement of Aotearoa, around 1840, the taewa (riwai) was a staple food crop of the Maori. Taewa is a collective noun referring to the 'Maori' potato; a collection of varieties of Solanum tuberosum now cultivated by Maori for at least 200 years. Maori acknowledge that some varieties arrived with early explorers, sealers and whalers during the eighteenth century.</p>

### Other Aunties: a sample

Table 6.4. presents a sample of other Aunties. These represent different types of enterprise and products. All the Aunties, to varying degrees, aimed to sell their product via the internet to New Zealanders. The majority of profile pages detailed each Aunty and their products. A number of Aunties had established market places for consumers to access their products; however most of the vegetable producers relied on garden gate sales and pre-orders. The detail of each Aunty varied between Aunties, some provided extensive accounts in their *About me* and Te Wheke declaration

**Table 6.4. A sample of other Aunties**

Aunty	Products	Enterprise	About:
	Vegetables and Māori Vegetables	Certified Māori Organic; Training and Education; Farmers Markets; Direct sales; Employs Māori youth	Used to grow marijuana ... now grows vegetables... we not supposed to be on the dole, we supposed to be on the land working the whenua... working on own range of value-added products. Kaiwhenua Organics grow organic kai on ancestral land in Raglan, we are certified organic under Te Waka Kai Ora's Hua Parakore Māori certification.
	Peruperu (Taewa, Māori potatoes), 7 varieties	Farmers Markets (Kaitaia and Auckland), traditional Māori, taewa can also be purchased directly	'The Peruperu Man' Kedar growers is located in Kaitaia. Home for us over many years, our whānau have utilised the whenua for growing our own kai initially and then moved to small scale commercial production. We humbly began with the basic machinery to help soil preparation, plant and harvest.
	Bottled mineral water, 'from sipper sports bottles to survival kit sizes.	Can be purchased in stores and directly from the producer.	Goldwater Springs Bottling Co Ltd produce 'Coromandel Pure Quality Bottled Mineral Water'. Family owned and operated business in the pristine Coromandel Peninsula.
	Skin creams, shampoos and conditioners	Can be purchased at health stores and directly from the producer.	All Haumanu products are derived from plants currently growing in the local bush – often, but not always, these come from New Zealand traditional native plants. Haumanu Natural Products are thoroughly tested before being offered to the market place. We are based in Taupo.
	Milk, Yoghurt, butter	Supermarkets, Farmers Markets, Export, Organic Stores Certified Organic and Māori Organic (Hua Parekore, TWKO)	Biofarm Products Limited (est. 1986), a market leader in the production of pure, natural, organic dairy products. Our family farm is located in Whakarongo. We are committed to the production of clean nutritious food using biodynamic farming principles, based on our consideration for the health and welfare of consumers, the animals in our care and the environment.
	Rewana Bread	Farmers Market. Direct order from Aunty	Aunty's Rewena Bread. Our rewana recipe has been handed down from my grandmother. Rewena is a bread baked in the oven and made with a potato bug to rise. It has a sweet and sometimes sour taste. There is nothing quite like fresh hot rewena covered in butter and your favourite topping. We are based in Hastings.
	Ta Moko (Traditional Māori tattooing)	Direct from Ta Moko artist.	Moko Kauri is based in Kaitaia. 'Ta Moko of the highest quality'. Each ta moko is unique to the wearer and tells their own personal story. I am committed to keeping the art form of tāmoko and its tikanga, traditions alive, through constant research and the pursuit of excellence.

	Harakeke paper	Direct from the producer or via their website <a href="http://www.pakohe.co.nz">www.pakohe.co.nz</a>	Pakohe Quality Papers are handmade from 100% New Zealand Harakeke (flax) fibres. We are a whānau based company based in Whanganui. Our logo represents a famous Whanganui saying: E rere mai te awa nui, mai I te Kahui maunga ki Tangaroa, Ko Au te awa, Ko Te Awa ko Au, Our mighty river flows from the majestic mountains to the raging sea. I am that river and the river is me'.
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#### 6.5.4. The movement of products which AG enacted

The website device enacted the movement of Māori products. Aunty's Garden organisers and promoters commented that the website had generated significant interest and Aunties had reported how consumers contacted them (Barber 2011, Ropiha 2011). In relation to Aunty Hanui, at TW hui she mentioned that numerous people were coming to Aunty's Garden (Waipatu marae). NR discussed how a number of people had contacted him in relation to purchasing taewa seed and table taewa (Roskruge 2011). These people included both Māori and non-Māori, and came from across New Zealand. On one instance, NR mentioned how a Māori chef based in Wellington had ordered 10kgs of taewa, which would then be served in his restaurant.

On the website itself, AG instituted other devices to facilitate the circulation and exchange of Aunty products. As per the previous section, consumers were able to contact AG directly in order to make *Purchase Requests*. On AG's website consumers had a subpage to contact AG:

This area is for purchasers who would like to advertise a particular product request. By stating your preferred needs a grower will then be able to respond if they can fill the order by the particular date specified. This is another way consumers (purchasers) are able to connect with the producers directly. A purchaser could be any of the following: Individual, family, Trust, Corporation, Company, Restaraunt, Cafe, Shop, Retailer, Supermarket, Marae, Kohanga, Kura Kaupapa, Hotel, Chef, Luxury Lodge, Specialty Store, Tourism Operator etc. (Aunty's Garden 2011).

AG would then either contact an Aunty directly or assemble the requests within a table and project this on AG's website. Figure 6.6 illustrates an example of one instance in which AG posted a request on their website (and subsequent social media profiles). The announcement was titled *10 Tonnes of Māori Potatoes Needed*. The requests took the form of a table, which illustrate the sorts of products purchasers sought and who the purchasers were themselves. This reveals that both Māori and non-Māori purchasers utilised AG. The request table itself acted as a device to assemble orders, make them visible to Aunties, who could then follow up with the purchaser. A number of the requests were large orders and sought supply either immediately or upon the end of the 2011/2012 growing season. This in effect enabled Aunties to plan their planting accordingly. The table also illustrates *completed* orders, evidence that AG got things *moving* between Māori and other economies (i.e. 10,300kgs of taewa!).

Knowing exactly how many exchanges took place due to [auntysgarden.co.nz](http://auntysgarden.co.nz) was not possible. Aramanu noted that there was never an agreement or process for monitoring trades by or between Aunties (Ropiha 2011). Payments for produce took place between the Aunty and consumer – the website did not offer *clickable buy now* options. They had tried to gather this information via

sending a survey form to Aunties, but the response rate was low. Whilst this information was not available, my conversations with AG personnel and Aunties, and in addition to Figure 6.6 provide a measure of exchanges and demonstrate auntysgarden.co.nz did enact market exchange between producers and consumers. AG got things moving and enacted exchanges and new market-based exchanges.

**Figure 6.6. Ten tonnes of taewa wanted: attaching consumers to Aunties with other devices**

## Current Purchase Requests

Date Posted	Purchase Request	Date required by	Purchaser	Contact Details	Completed
1 Jan 2011	10 tonne Maori Potatoes	1 June 2011 - Matariki	Waikato Marae	<a href="mailto:waikatomarae@gmail.com">waikatomarae@gmail.com</a>	X
1 Feb 2011	50 kg Avocado	11 May 2011	Gisborne Organic Retail Shop	<a href="mailto:GORS@xtra.co.nz">GORS@xtra.co.nz</a>	X
30 April 2011	80 kg Watercress	Weekly	Native Foods Restaurant, Napier	06 8777771	
30 April 2011	50 kg Kokihi NZ Spinach	ASAP	Takitimu Kohanga Reo	06 8777772	
17 April 2011	100 kg Organic Passion fruit	30 April 2011	City Centre Café Wellington	04 4555551	X
1 July 2011	200 kg Kaanga Ma (White Corn)	17 March 2012	Auckland Urban Restaurant	<a href="mailto:AURest@gmail.com">AURest@gmail.com</a>	
26 March 2011	50 kg Pikopiko	ASAP	Country Chef Queenstown	<a href="mailto:QueensCC@xtra.co.nz">QueensCC@xtra.co.nz</a> 03 3433333	
28 March 2011	100 kg Oranges	ASAP	Juice Bar Whangarei	06 48888891	
1 April 2011	150 kg Organic Salad Mix	Weekly	Hamilton Cuisine Restaurant	07 84902010	
13 April 2011	80 kg Organic Basil	Weekly	Pesto R Us Ltd	<a href="mailto:Pes0@ihug.co.nz">Pes0@ihug.co.nz</a>	X
19 April 2011	1 tonne Organic Apples	ASAP	Fruit Squeeze Ltd, Wellington	04 4443322	
16 April 2011	200 kg Walnuts	ASAP	Cakes for You, Auckland	09 978888811	
1 May 2011	300 kg Pumpkin	30 March 2012	John Andrews, Taupo	<a href="mailto:ja@gmail.com">ja@gmail.com</a>	
12 May 2011	150 kg Organic Kumara	30 March 2012	Masterton Mana Marae	<a href="mailto:MMM@xtra.co.nz">MMM@xtra.co.nz</a>	
23 May 2011	300 kg Maori Potatoes	10 Dec 2011	Mr French Fries, Tauranga Fish n Chips	<a href="mailto:Mrff@chips.co.nz">Mrff@chips.co.nz</a>	X
1 April 2011	6 pigs for Haangi	1 Jan 2012	Rangi Baker, New Plymouth	06 897777996	

### 6.5.5. AG awakening the Taniwha economy?

AG was in effect a disruption to diverse Māori economies. By following AG I could see its expansion. It stimulated new interest, injected new things, and built new relationships. Others noticed these rumblings and AG was reported in newspapers, magazines and on social media. AG's social media profiles (i.e. twitter, facebook and youtube) *generated friends, likes, connections, reposts and comments* – too extensive here to detail. AG was talked about and featured in media. On one occasion I was looking at He Iwi Kotahi Tatau Trust's facebook page out of interest to see what was occurring at their Tune café in Moerewa, in preparation before taking a stage two geography class to visit (see FitzHerbert 2008, FitzHerbert & Lewis 2010), I noticed a post saying 'hey check out this (AG), we should join'. In popular media AG was reported as being an exciting Māori economic

development project and one which established new market possibilities for Māori entrepreneurs – one which Māori owned (see, for example Boyes 2011; Nobes 2011; Radio NZ 2011; Te Hookioi 2011). Whilst other articles focused more directly on particular Aunties in regards to how AG was helping them to establish their enterprises (see, for example Jeeves 2011, Boyes 2011; Carney & Skelton 2011): as one Aunty explained, ‘Aunty’s Garden provides a channel to expand (my) market and take (my) business to potential suppliers and stockists’ (Jeeves 2011). And, Māori publications signalled Aunty’s Garden was an exciting distinctly Māori venture and place where Māori could find Māori kai, products and experiences (Te Hookioi 2011; Carney & Skelton 2011).

Going live in the wild helped AG to give the Taniwha Economy a nudge, and one that was in terms set by its moral economy foundational propositions. The website became an enactive actor/device, revealing diverse Māori economies, and fostering relationships between Māori producers and took Māori producers elsewhere. It assembled and revealed a diverse Māori economy and generated new attachments: Growers to Growers; Māori to Growers; and Consumers to Growers. This opened up new lines of expansion from diverse Māori economies into capitalist economies, on terms set largely by, and in terms narrated by, Māori growers. AG and the internet demonstrated new possibilities for circulation and articulation (some overtly capitalist, some provenanced moral economy) – it revealed the elsewhere (i.e. marginal, disparate and remote diverse Māori economies) somewhere (on [www.auntysgarden.co.nz](http://www.auntysgarden.co.nz)). AG expanded in a rush into New Zealand’s first and largest collective of Māori agricultural food producers. Māori agricultural producers and products became locatable. It built new connections and pathways along which taewa might circulate, all within a few clicks on a platform crafted by Māori and co-performative of Aunties identities. In this reading AG was a success, but a deeper set of stories reveal a set of dead ends, obstructions and contradictions among economic imaginaries that became increasingly difficult to silence.

## **6.6. Journey 4. Aunty’s Garden contracts and starts anew.**

At the end of the pilot project KAHC deemed AG a failure and did not progress its AG plans. It had not generated a significant income stream for KAHC. KAHC did not continue investment. Aunty’s Garden personnel lost their jobs. The website was shut-down in early 2012 (Figure 6.7) and is now completely removed. AG’s Twitter and Facebook are not active but the Youtube videos are still online. Aunties continued with their other efforts. Aunty’s Garden Ltd. is still active on the New Zealand companies register; although most the directors left. In an Aunty’s Garden think-tank type situation, in which Aramanu invited me to stay with her and her whānau in May 2011, we discussed the challenges and future of AG. Aramanu has spent considerable time reflecting upon AG in terms of what happened, what caused its demise, and what could become in the future. Supposing that AG was experiment, the organiser has produced knowledge about what led to success and what challenged success, and taken these to reconstitute what AG is and can be going forward. In this section I discuss what became of the AG economic experiment.

**Figure 6.7. Aunty's Garden goes offline**



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The Aunty's Garden website is currently under review.  
We welcome any comments and suggestions from users of the website.  
Please direct all inquiries to [kahc@xtra.co.nz](mailto:kahc@xtra.co.nz)

### **6.6.1 Aunty's Garden think tank: reflections on Aunty's Garden with Aramanu.**

The AG think-tank moment occurred at Aramanu's home in Porangahau on the 27<sup>th</sup> and 28<sup>th</sup> of July 2011. She invited me to stay with her whānau and talk about AG. The encounter once we started talking about AG was uneasy. She had committed to AG since 2008 and poured herself into the project. She was emotionally and professionally invested. She felt responsible to all the Aunties and AG personnel. With its demise the Aunties would no longer have AG and the personnel jobs. It had been Aramanu's hope to establish something different and more durable, to inspire Māori and provide Māori with a Māori means of improving their livelihood. Early in the day I had been in the AG offices at KAHC talking with Ben about how things were going – 'ok, but could be better', was his line. To learn of its demise in Aramanu's words was emotional for her, and deeply affective for me.

We discussed AG for over four hours in which Aramanu detailed the factors which would lead the project to end after its pilot stage. To begin, she discussed how Aunty's Garden had been too top-down, being imposed by both KAHC and the State. She felt that although KAHC had provided significant investment, the project (and her) was not fully supported by Ngāti Kahungunu Iwi Inc. The necessary relation of AG to state and iwi projects effectively constructed imaginaries of how AG would operate and framed what would be deemed a success. It included the notion that Māori were ready, willing and able to take on new technologies and practices of exchange. It assumed the idea of a single brand would be unproblematic in assembling Māori together. The brand and the use of technology was presumed to become effective immediately and in turn generate the commerciality of AG with supporting profits. Indeed the pressure to be immediately commercial set the project on course for failure. She noted that these top down economic imaginaries and categories did not map onto the diverse Māori economies in which she sought to support.

She felt these factors took away the opportunities for ground-up projects and learnings, and that Māori would feel constricted and weary of projects from elsewhere (especially the state).

Rather than a smooth translation of state ideas/imperative, these clashed with Māori growers. In terms of AG's ownership (KAHC), Aramanu suggested that Aunties had limited investment and stakes (i.e. AG was free for them to join) in contributing to AG's success. She felt that had AG been 'owned' by Aunties they may have been more invested in trying to keep it going. Aside from these, she suggested that the promised support from the mentoring group (and MET) was patchy, often critical and not always helpful or productive. She speculated that some members had less interest in seeing AG succeed and more interest in learning from its failures, even in thinking through how this might underpin the strength of other projects such as Poutama Trust and the Indigenous New Zealand Cuisine project.

Aramanu reflected that although there was high interest amongst Māori during the proposal stage, uptake was slow. People liked the promotional material, the concept, but did not sign up to AG. She felt most Māori wanted to sit back and see if AG realised its claims and make possible exchange, and then they would *probably* become an Aunty at a later stage. Whilst they had enrolled 100 Aunties only around five percent were active on the website. Some aunties only wanted to observe what AG could make happen: *Aunty's Garden was only ever a secondary project for them, they concentrated on their immediate exchange projects*. She noted that many Aunties located in remote regions either had no access to a computer and/or the internet. Whilst some tried to be active, it required them calling Ben and requesting him to update their profile pages and/or keep them in the loop about what was happening and trade opportunities. Ben's role and that of the other web support officer was never meant to be as such. In response, AG posted numerous informational guides for Aunties on the website that were either in downloadable text form or video form on Youtube; however, for those Aunties without access, these made no difference.

To complicate matters, KAHC had contracted a web development company to produce the site. AG personnel (incl. Aramanu) had no control or input into the creation of this infrastructure. They became dependent on the web development company, which at best provided help some of the time. They had to go to the company every time something on the website needed to be done (i.e. links not working, banners slipping across the page). As funding dried up, this presented a significant challenge for AG, they neither understood the website or how to change/correct errors and for general site maintenance (at one point the weblink took visitors to an porn site rather than AG). Aramanu reflected it would have been preferable had they developed a website themselves, even if it had been less *flash*, at least they would have developed the skills to be independent.

A number of Aunties in remote regions could also not participate due to the lack of distribution options. Vegetable growers were unable to access distribution networks as freight companies/couriers (i.e. New Zealand Post, New Zealand's main freight service) would not transport their produce because of cost and/or the perishability of their products (incl. taewa). On the site itself, the lack of *ready now/buy now* products meant some consumers were confused and instead went to other sites which offered this service. Furthermore, the direct Aunty to consumer relation, required Aunties to establish the terms and conditions of exchange with distant strangers;

some 'more established Aunties' could negotiate these quite comfortably, while other Aunties could not. And, some Aunties were hesitant to sell their produce.

We discussed possibilities for AG's future, albeit it difficult that KAHC still owned AG in terms of the name and infrastructure. This conversation focused on various aspects. In terms of investment, Aramanu discussed the potential of pitching AG as a technology project for remote regions to technology and communication corporations (i.e. Microsoft, Apple, Telecom and Vodafone). For more immediate options, we discussed the potential of establishing AG hubs in remote regions, in which Aunties could perhaps access technology and the internet at various Māori or mixed schools. Likewise, in terms of distribution chains, we thought about how AG could facilitate communication in remote regions in which Aunties could coordinate distribution to other centres which each other (i.e. is an Aunty going out of town this week, could they drop off some produce). Additionally, the national scale of AG proved difficult to maintain. Likewise building connections and flows of information between geographically disparate growers was also difficult, the website assembled Aunties, but did not particularly facilitate Aunty to Aunty connections. AG could be downscaled or establish particular AG hubs in different regions. AG hui would occur regularly and bring together in Aunties in culturally appropriate in-person encounters, in which the opportunities for learning about and supporting each other would be situated in Māori spaces.

Aramanu's reflections demonstrate the difficulties in generating a relationship between AG and diverse Māori economies. Given AG had come from elsewhere (i.e. KAHC and the State) the economic imaginaries did not seamlessly fit into diverse Māori worlds. Likewise, the material infrastructure and its integration proved problematic. Aunties did not use or have access to technology and distribution logistics were not available. And, the AG website as a device would often malfunction.

### **6.6.2 Some reflections from Aunties**

At hui and upon other encounters with Aunties or with other Māori vegetable growers we discussed AG. The narratives of these conversations speak to a number of the elements Aramanu discussed. Firstly in terms of participation, a number of growers saw AG as their own experiment, one in which they would try out new practices and/or sit back and see what happens. They utilised AG and its proliferation (or lack of) to learn about what might work for them. Secondly, in terms of the brand AG, a number of growers mentioned they did not want to be an Aunty, because they were an Uncle. Others saw the brand as a Kahungunu brand, one in which did not reflect their particular iwi or hapū values and practices. Thirdly, in regard to setting the terms and conditions of exchange between Aunty and consumer, a number of Aunties trusted consumers to pay. In a conversation with NR, he mentioned Tāhuri Whenua never received payment for 10kgs of taewa, and on other occasions had to continuously follow up consumers to make payment. And, lastly, in terms of being technologically engaged, a number of growers commented that they were growers *we are out in our gardens all day I do not have time to be on the internet*. Additionally, others did not have the option as they had no access to a computer or were located in an area without internet, which required them to invest in a satellite, an option not feasible due to cost.

### 6.6.3 Aunty's Garden anew.

Despite AG being officially closed down by KAHC, AG itself has lived on at Aunty's Garden Waipatu marae (see Figure 6.8). Hanui talks about AG at Tāhuri Whenua hui (Lawrence 2012, 2013, 2014). It is open to the public and provides Māori vegetables on a koha basis (See Chapter 5, section 5.4.4). This has kept Aunty's Garden alive and breathed new life and given AG new form. In June 2013, Aramanu resigned from KAHC and they gifted her the remaining AG artefacts. She is now the sole director and shareholder of Aunty's Garden Ltd. and she also owns the domain name. Facebook activity has started anew and posts regular updates from the the Waipatu marae garden and upcoming events. The garden has featured in regional newspapers (e.g. *The Hastings Mail* 2013), and has established a column *Recipes from Aunty's Garden* (Lawrence 2015a,b), and on blogs (Reeves 2013). AG also appears occasionally at the Hastings Farmers Market. The new AG is perhaps the one imagined by Aramanu. It is being worked at from the ground, taking small steps and learning the ropes. It takes on challenges immediate to its current aspirations, and learns those before scaling up.

Figure 6.8. Aunty's Garden: still alive (Source Aunty's Garden Facebook page)

The image shows a screenshot of the Aunty's Garden Facebook page with four posts. Each post includes a date, a profile picture of the garden, and various content such as photos or text updates.

- Post 1 (27/4/2014):** A photograph of a woman smiling while holding a large basket of fresh vegetables. Below the photo is a blue banner that reads "AUNTY'S GARDEN" in a stylized font, with "est. Spring 2010" and "Waipatu" written underneath.
- Post 2 (21/4/2015):** A text-based post from the Aunty's Garden profile. It says "Feb 23rd - 408 likes", "April 20th - 581 likes", and "Our whanau is growing!". Below this are the options "Like · Comment".
- Post 3 (12/4/2014):** A photograph of a white sign on wooden posts. The sign has the Aunty's Garden logo (four circles in a 2x2 grid) and the text "AUNTY'S GARDEN". Below that, it says "Hours 9am - 5pm" and "TRADE NOT ALLOWED". A chalkboard sign is attached to the bottom of the white sign, listing items available: "Ready Now" (Silverbeet, Spinach, Cabbage, Some Caulis, Herbs) and "Pay in koha Box" (Broadbeans, Beetroot, Lettuces, Kale). At the bottom of the chalkboard, it says "DON'T PICK ONIONS OR GARLIC" and "OWN BAGS & KNIFE PLS".
- Post 4 (21/10/2015):** A text-based post from the Aunty's Garden profile. It says "Learn how to grow your own food and so much more!", "EIT Level 2 Horticulture Course based right here at Aunty's Garden, Waipatu Marae.", "Enrol for Semester One Course starting in February 2016.", "Full time Monday to Thursday 9 am to 2.30 pm.", "Fee Free with Student Allowance available to those who qualify. Sounds great ? enrolments open now with limited places. ... See More".
- Post 5 (12/6/2014):** A text-based post from the Aunty's Garden profile. It says "We are small farmers at Aunty's Garden ... our garden could support and feed many more people - come along and find out. Don't forget to bring your bag and your knife ... and your koha".

## 6.7 Aunty's Garden a failed economic experiment?

Whilst seen as a failure by the state and capitalist iwi actors, Aramanu and growers suggest Aunty's Garden cultivated new learnings, circulations of exchange, nodes of articulation and opportunities for Māori to perform, make visible and narrate their economy differently. They, and those looking on, learned that the articulation of diverse Māori economies and state capitalist economies is far from seamless. Rather, translation of ideas, objects and actors is fraught with difficulties, which become performative in some expected and unexpected ways. In what follows, I will develop a counter-narrative to that of failure.

As an economic experiment, AG enrolled Māori vegetable growers as cyber aunts and constructed a new platform of exchange, putting into circulation some new and old actors, ideas and objects. It assembled different actors, practices and relationships (from inside and outside Māori economies) in an effort to build a different platform for the circulation and exchange of Māori produce across diverse Māori and capitalist economies. The experiment presented AG organisers and the aunts a number of challenges and opportunities, and required them to negotiate new ideas and practices to get things moving across economy *frontiers*. Understanding AG as an economic experiment allows us to ask how projects are assembled and then mobilised in the field. The case provides a partial investigation of the contours of diverse Māori economies, and the efforts of articulating diverse Māori economies with state-capitalist economy. As an experiment AG utilised the situated 'real economy' as its testing ground and produced insights regarding both the construction of markets and the experimenters themselves.

AG put in place an architecture of exchange that was always more a platform for fostering diverse economic relations than a market, despite the managerial consultancy template into which Ngāti Kahungunu sought to initially box it. It fostered a diverse Māori economy by learning and doing economy in new ways, making diverse Māori economies visible to Māori and others. In doing so it created lines of expansion and/or flight. It mobilised new attachments between producers, goods, consumers and non-human actants. At its core were the AG kaupapa, the KAHC office and investment in AG, the Aunts, their work, their story, their produce, and the computer. The kaupapa garnered the support of many Māori differently scaled enterprises from across Aotearoa and helped its people to prove that they were trustworthy and the project was beneficial to Māori cultural and economic aspirations.

All this was achieved under stringent temporal constraints. AG had to prove commercial viability within the tight framework of project funding and KAHC evaluation. Its organisers had minimal, if any, time to reflect on the project's journey, locked as they were into commercial temporal rhythms. I would argue that the directors' perceptions of the time it would take to become commercial was based upon assumptions of an already existing market, and the expertise, practices and readiness of Aunts. None of these things could be assumed to be there, open or fixed. While AG can point clearly to things (people, devices, expertise and markets) that it built, such tight timeframes and their underlying market imaginaries marginalise the heterogeneity,

wildness and emergent nature of diverse Māori economies and impose overly constraining boundaries on experimentation. The projected notions of market-readiness, commercialisation and profitability, do not foster or provide the capability to develop the grounded entrepreneurialism necessary for new lines of expansion for Māori enterprise that articulate creatively with other economies.

Experiments like AG build capability from experimental learning. They give marginal economic actors an opportunity to undertake grounded economic experimentation with others and to learn how they might cultivate new lines of expansion that are appropriate to them. Unlocking the imposed imaginaries and timeframes of top-down projects, may instead unsettle piecemeal approaches to economic projects, stimulate experimentation, and even enliven or *awaken the Taniwha Economy*.

Did Aunty's Garden take Māori to 'the market'? Perhaps. It constructed a circuit of exchange, which whilst only fleeting did institute market exchanges and broader circulations of Māori vegetables (incl. taewa). These exchanges assembled growers and consumers and created relations between them, both in-person and through what were, to many Māori growers, new platforms of exchange. Aunty's Garden unsettled diverse Māori economies and opened up new possible interventions to cross economic frontiers. Have any of these unfamiliar actors, behaviours, institutions and practices become economised in Māori enterprise? Web, yes. Computer, yes. Social media, yes. Tweeting, yes. Aunty's Garden instituted a place that made Māori producers and products locatable and contactable, expanding the range and nature of exchanges between Māori producers and consumers. Consumers became enrolled in a moral economy that made visible who is growing what, how and where, and thereby entangled them in the social relations of production (practices and values).

To conclude this chapter, I focus on three features of Aunty's Garden that have left material form and more generally enlivened the wilds in which the experiment was conducted: new and unsettling encounters among unexpected actors; a kaupapa that links the diverse economies kaupapa of Aunty's Garden to a spirit of entrepreneurialism; and new matters of concern. Each demonstrates how economic experimentation enacts new objects, practices and platforms of, and for, articulating diverse Māori economy with state and capitalist economy.

### **6.7.1 New and unsettling encounters among unexpected actors**

Aunty's Garden assembled over one hundred Māori producers, of differing practices and scales of enterprise, and attached them to one largely accessible platform – [auntysgarden.co.nz](http://auntysgarden.co.nz), an actor for articulation. This made visible Māori producers, their produce and economies. As actor, the website provided Māori a means to project their cultural practices, values and objects of enterprise to publics beyond their immediate worlds. It assembled different people, ideas, institutions, investment and technologies, and generated unsettling and unexpected encounters and relations. It brought internet technology and branding to small-scale community gardens and hinted at how productive and collectivising this might be, as well as highlighting their potential for delivering

economies of scale and market connections in capitalist economies to small-medium sized Māori enterprises. Indeed other Māori market-making projects (e.g. Te Ahi Ka Kai and the Indigenous New Zealand Cuisine) are now actively demonstrating their potential to deliver commercialisation aspirations.

However, not all aunties acted or related to others in the ways imagined by the experimenters, or assumed by KAHC. For many, the experiment sparked new interest and excitement in Māori worlds as much entrepreneurialism. Collectively, it sparked *hope*, in terms of a market vehicle owned by Māori and for Māori, sensitive and enactive of Māori aspirations, values and practices. Organisers celebrated this as participation. Aunty's Garden and [auntysgarden.co.nz](http://auntysgarden.co.nz) demonstrated the possibilities of web-based platforms to enact circulation and exchange. However, it also revealed the challenges facing such initiatives: bringing together Māori under one brand, providing an accessible infrastructure for all given the asymmetries of motivations, technological knowledge, and geographical unevenness. Some aunties were well positioned to mobilise Aunty's Garden. They sought new commercial platforms, saw the potential of a brand to enhance their story, could access and utilise the internet and computer, and their products were market ready and could travel easily to consumers. For others, Aunty's Garden was about connecting to others, a collective brand felt restrictive, access to the internet or computer was restricted, or their 'products' resisted the website's standards (too adhoc, with limited availability, overly bulky or perishable). For taewa growers, the website could not compensate for the crops lost due to the psyllid and Lso (Chapter Seven). The materiality of the experiment also mattered: for example, fresh produce, computers, the internet and seasonality all shaped what was possible and what emerged. For AG, actors *worked* differently and shaped differing topologies of *action*.

As Callon (2007a) recognises, *economic experiments are performed by collectives that vary in size, nature and scope, including (maybe) professional researchers or experts and experts in the wild*. The experts in the Aunty's Garden experiment included: market practitioners (PWC, Sputnik), and state agencies (TPK, MET). The experts in the wild included: stakeholders (KAHC, Kahungunu Iwi Inc.), supporting organisations (Tāhuri Whenua, Te Waka Kai Ora), and the Aunties. Each had their own particular expertise, some shared, but mostly divergent when related to Aunties. The experts also had differing 'market' and 'market-making' imaginaries, perspectives on the values of commercialisation, views of cyber-technological potential, and how aunties would perform as economic beings. Aunty subjectivities assumed by experts (technologically able, profit-motivated, market-ready entrepreneurs with market-ready and available products) clashed with those understood by experts in the wild. Aunty subjects themselves proved to be a mixed bunch, as did their products, and their access to the internet. Some had become an aunty to support the initiative, but did not participate beyond *signing up*; while others sat back to *see what happens*. Who the experts were and where the experiment came from mattered: many of the Aunties saw experts and the experiment as being Ngāti Kahungunu, shaping who participated and how they participated. Indeed, Aunty's Garden was seen by many 'Aunties' as an experiment to *take part and see what happens to learn about 'the market', see what other Māori are up to, and to use it as a*

means to connect with other Māori (not 'the market'). Aunty's Garden as an economic experiment was not just about marketisation.

### 6.7.2 A kaupapa that links diverse economic entrepreneurialism

'Entrepreneurialism' looks different in capitalist, state and diverse economies. The KAHC member and one of the Aunty stewards, is no less shrewd or entrepreneurial than the MET official parroting back economic nationalism with a Māori flavour, or Margaret Mutu who is working capitalist economic values against entrenched cultural values to develop the rohe of Ngāti Kahu. The fact that Aunty's Garden has fallen over attests the challenges but does not mean the economic experiment was a failure or that its energies have dissipated. Rather, it has taken new lines of expansion. A new project (i.e. Indigenous New Zealand Cuisine - INZC) has emerged from the MET that takes up many of the ideas of AG, which was seen all along as valuable by PWC. As Aramanu speculated, MET and Poutama Trust saw in Aunty's Garden their own (less risky) experiment to pilot a web-based Māori marketing initiative. INZC has addressed some of the tensions in Aunty's Gardens: it employs a looser form of Māori brand and only includes enterprises that are sufficiently commercial and have established value-added products (e.g. manuka honey, beer, wine, mussels). INZC seeks to maximise the potential of already commercial Māori enterprises (see, Poutama 2014), but does not provide a platform for participants in more marginal Māori economies (aunties growing taewa and kumara). This will help it meet more commercialised performance targets but does not perform the role of cultivating Māori enterprises from the ground-up or from pre-enterprise form and thus encouraging marginalised growers to utilise resources *to grow a few or plenty of Māori vegetables*. Perhaps the state and MET see the challenge of articulating diverse Māori economies with other economies and fostering diverse 'entrepreneurialism' as too difficult (see section 8.2)?

Mitchell's (2007,2008) ideas of the (lack of) articulation between state-expert economic experiments and grounded realities cuts into the tension between economic imaginaries and conceptions of success in outcomes, and in the case of Māori economy *who* and *what* can generate lines of state investment. To contrast the cases of Aunty's Garden and INZC reveals a politics to the imagined 'economy' and the 'entrepreneur'. Projecting the state's, MET's, economist's and PWC's ideas onto diverse Māori economy through Aunty's Garden proved difficult, if not the poverty of their imaginaries. Aunty's Garden took on diverse Māori economies in all their rich wildness – any Māori from anywhere doing anything could become an Aunty. This wild that was full of emergence, diversity and uncertainty. A top-down capitalocentric assumption that a commercial imperative could render these worlds 'economic' and transform Māori into homoeconomicus – or *homo tangata-economicus* - was doomed to fail. Aunty's Garden was situated in worlds (diverse economies) largely constituted by disparate and marginal Māori agri-producers, who exchanged Māori vegetables (of varying size, quality, availability, freshness) via cultural practices (i.e. koha, free). Some sold off surplus via various commercial means, but when there is no surplus or even no produce, there is no monetised exchange. On the other hand, for INZC and Poutama Trust, the wild is commercial and constituted by established commercial Māori enterprises with *proven* sales portfolios and *niche, branded food and beverage products* (see INZC 2012). Poutama Trust

mobilises the same Brand Māori logic as Aunty's Garden and works with the same development agencies: TPK, MET (and MEDP) and NZTE. If the Taniwha Economy project is about awakening (and unlocking potential), the case of Aunty's Garden reveals the challenges and diverse potentiality of making diverse economy, while INZC deploys more standard contemporary economic development approaches to support the already 'awake' and develop established forms of entrepreneurialism.

Has the Aunty's Garden experiment been appropriated and their hopes coopted? Not entirely. Their struggle to construct a point of articulation with the capitalist economy will continue. The collective has more than just trace relationships between the (ex)KAHC official and the fellow Aunties. These have been strengthened and a resolve to do it themselves in their own way has been built. This means practicing a form of cultural and cultural economy entrepreneurialism that is appropriate to their diverse economy, and demands a particular form of entrepreneurialism (or doing economy in the wild) that is not always present and not necessarily narrowly economic. Indeed, Aunty's Garden lives on as Aunty's Garden at Waipatu marae through the entrepreneurialism of Aunty Hanui supported by Aramanu's now refined expertise of economies in the wild. The new initiative provides a space of learning, exchanges Māori vegetables at the gate, is open to the public, and occasionally sells vegetables at the local farmers market. The Aunty's Garden case points to grounded entrepreneurialisms. It also points to the fragility of diverse economies founded on top-down attempts to articulate capitalist and non-capitalist circulations, and indeed 'state' experiments to cultivate entrepreneurs. Aunty's Garden invites us to reinterpret 'failure' in conventional terms as generative in other terms and to interpret entrepreneurialism more broadly as dynamic and diverse.

### **6.7.3 New (situated) matters of concern.**

The Aunty's Garden case reveals a shared matter of concern for 'the economy'. The uncertain and rich wildness of Aunty's Garden meant it struggled to articulate between its Taniwha-State hierarchical arrangement and the *agencements* of the wilds. While just what *the economy, utilisation and being economic* means is imagined differently and contested, contests within Aunty's Garden were subjected to the deeper shared concerns about utilising Māori resources and economic being. Aunty's Garden sought to coordinate practice and concern across diverse Māori economies, but ultimately the Taniwha and community taewa economies took their own lines of flight and understood and practiced the experiment differently.

In effect, the multiple experiments of the time were all run through or across Aunty's Garden at the same time. For example, the State and MET were developing their awaken the Taniwha projects (i.e. Brand Māori, Māori collectivisation, Technology, Māori Primary Sector), KAHC sought to establish new land-based commercialisation opportunities, Māori producers wanted to learn the opportunities for different market platforms, and Māori sought to establish gardens and see what the possibilities were for potentially exchanging produce. Aunty's Garden suggests that collective economic experimentation is difficult, especially, when different priorities and metrics of success are in play. However, it shows that, although circumscribed by the temporalities imposed

by KAHC, different actors on different trajectories of the experiment each *learned and did* something different as a result of Aunty's Garden. Aunty's Garden was constituted and constitutive of a diverse series of experiments across multiple levels of the project (i.e. State-Māori, Experts-Māori, Māori-Māori). The actors had different aspirations and expectations of what could *become* in terms of articulating diverse Māori economies with capitalist economies, and strengthening connections and circulations across diverse Māori economies.

Aunty's Garden suggests that to be a collective economic experiment, each actor and the collective agencement need to at least share some situated matters of concern. While its top-down drivers resulted in many growers losing interest and a sense of ownership of the project through cultivating something for themselves, others always saw Aunty's Garden as their own experiment in *adding something extra to what they already were doing*. What the Aunty's Garden case offers us then is an account of both how power in the form of particular expertise and its programming into timelines and performance indicators works through economic experiments, but also how the *experimented upon* (i.e. the Aunties) generate their own learning and meaning from experiments. Capturing how other actors exercise have agency in such experiments reveals some hope in regard to mobilising alternative framings and notions of success and failure. Whilst it may be (im)possible to reconcile the different trajectories of the experiment in terms of a stable and unifying matter of concern, matters of concern were at times and to different extents shared. The experiment was a transformative practice that drew in new actors, forged new understandings and relationships, and enacted an important alternative provocation in the world of the taniwha economy. It registered success in different terms that challenge notions of returns. Aunty's Garden put in place an experiment that built new relations between Māori, used Māori land, showcased Māori objects, and provided a different means of exchange – for profit or not.

#### **6.7.4 Aunty's Garden and taewa economies**

In effect these four features represent in a different language and a wilder, more situated sense of economy, precisely the KPIs set for it by KAHC, the MET and their Management Consultant (PWC). The only thing missing are the monetary flows. So what does this tell us? The shape and boundaries of experimentation and entrepreneurship can be disrupted and be enactive of situated meaning and value. Experimentation unsettles diverse Māori economies opening up possible interventions to learn and do economy in new ways, build new relationships and generate new lines of expansion. Actors seeking to articulate diverse economies learn the challenges and opportunities of how they might negotiate as they participate in experiments. By enacting an articulation across diverse and capitalist economies, the experiment revealed and cultivated productive tensions that generated new knowing and doing of Māori economy (i.e. *trying things, rejecting things, working cultural values and practices, and bumping together and negotiating capitalist processes*). The experiment needs to be read across cultural and economic categories in order to open up *value* and *success* to mean different things and produce new aspirations and entrepreneurial activity in relation to them. In these terms the Aunty's Garden experiment was value making, made value and

made new value possible through the mediation and proliferation of cultural, social and economic interaction and exchange.

However, collective economic experimentation is difficult. Constituting the collective from the different trajectories of object, subject, meaning and the target of expectations and aspirations must be worked at. Taking any experiment to the wild performs uncertainty, rearrangement, overflows, messiness, and brings them into a risky political light. Some aunties used the experiment to practice and demonstrate their support for a Māori project, others wanted to build connections with other Māori, and others saw it as a commercial endeavour. However, individual and collective action remained relational rather than oppositional, constituting what became a productive experiment rather than a contest mired in failure. Capitalocentric imaginaries coexisted with situated diverse economies, at least temporarily. Additionally, the outcome of Aunty's Garden was shaped by a series of other ongoing Māori-State experiments (Brand Māori and Export efforts), which ultimately framed what was success or failure (in this case the ability to make a profit) that came into tension with diverse Māori economies. The challenge is to quickly launch the next, necessarily temporary and uncertain collective experiment.

For the taewa economy, Aunty's Garden injected new and old objects and extended taewa economy relations that gave new form to the taewa economy. The use of new market devices generated new platforms for seeing and exchanging taewa. Aunty's Garden extended the circulation of taewa into a broader set of market actors and relationships. Indeed the '50 tonnes' of taewa showed that Aunty's Garden led things to happen in the taewa economy – it moved taewa (*over ten tonnes*). Aunty's Garden performed taewa economies and 'the market' in new ways. These devices recharacterised exchange and the possibilities of exchange for taewa growers. Where Aunty's Garden struggled was its ability to situate such economy within diverse broader Māori economies and thus produce demonstrable value for KAHC, the state and Māori in their own terms, or creatively rework their performance parameters. Tāhuri Whenua (Chapter Five) seems to have more successfully carried out some of the articulation work and occupied the spaces of articulation necessary for smoothing the ontological divide between state, capitalocentrism and Māori by negotiating with multiple actors and reworking projects to demonstrate 'success' in multiple terms (e.g. Mara Kai). Aunty's Garden enacted another, looser form of articulation across economies that provided for new ideas, matters of concern, narratives of place, and taewa to move across the frontiers of economies.



## Chapter 7: Encounters and journeys with psyllids – More-than-human in cultural-political-economies

The previous two chapters demonstrated how taewa economy is being *expanded* through institutions and experimentation. This chapter stories how economy *contracts* and is *undone* and *redirected* by the non-human. It focuses on the insect invader (the potato psyllid) and the bacteria Lso which latched onto plants and reconstituted relationships between the bio and human life-worlds of taewa and their growers, and in turn ‘unmade’ taewa economies during the time of the projects discussed in Chapters Five and Six. The psyllid arrived at the same time as the expanding interest in taewa in farmers markets, cook books, organic and speciality stores as well as the efforts to revitalise taewa in Māori economy. Its arrival has proven disruptive of both market making and the circulation and exchange of taewa in cultural worlds. Together with Lso, the psyllid has begun to rework market and cultural circulations and their qualifying values.

Taewa interact with numerous non-humans (e.g. soils, bugs, diseases and viruses), but the psyllid and Lso concentrate attention on biological intervention: crops have died, seed has been destroyed, growers have stopped growing taewa, and certain semi-fixed categories and norms have been disrupted within taewa economy. Taewa face possible extinction, or at least becoming something other than how we have come to know them. My encounters with the psyllid, through growing taewa, talking to growers, listening to industry reports, and observing its disruptiveness enrolled me in a human-non-human drama of economy making. While my other journeys were entangled in an opening-up of economy, my journeying with the psyllid entangled me in a politics of closing-down and reassembling: actors left, new actors came in, and new articulations, relationships and experiments emerged. This agency of the non-human provides another cut into understanding economy. The psyllid emphasises that as a biological economy, the qualification and circulations of taewa are bio-social-technical agencements.

The chapter ‘follows’ a set of encounters with the psyllid, encounters that elucidate journeys of ‘economy (un)making’ and provide an account of how the psyllid worked its way into taewa economy and how it has reworked that economy. The chapter describes the psyllid: where it came from, what it does and how it has interrelated with other actors. The account explores key interrelationships between the psyllid and seed taewa, growers and research projects.

## 7.1. The Tomato/Potato Psyllid and *Candidatus Liberibacter solanacearum*



An adult potato psyllid

Growers and scientists in New Zealand refer to *Bactericera cockerelli* as the Tomato/Potato Psyllid and *Candidatus Liberibacter solanacearum* as Lso or Zebra-Chip (post-harvest), or psyllid and Lso in short.<sup>38</sup> The psyllid is native to Central and North America, including Honduras, Mexico and the United States of America (USA). Their periodic devastation of potato crops in these areas over the last 200 years, and in the USA in the 19<sup>th</sup> Century, has been reasonably well documented (Cranshaw 1994; Liu *et al.* 2006; Liu & Trumble 2007; Crosslin *et al.* 2010; Butler & Trumble 2012). Karel Šulc recorded the first description of the psyllid in 1909 – as known then as *Trioza cockerelli* n sp. (Šulc 1909; see also, Richards & Blood 1933) - *psyllid yellows*; it was classified a genus of *Bactericera* in 1997 (Burckhardt & Lauterer, 1997). Psyllids are currently active in Canada, Guatemala and New Zealand, and are argued to be spreading again (Birch *et al.* 2012; Arp *et al.* 2014; Munyaneza 2015). Lso has also been detected in North America, Central America and Finland, although its origins are uncertain. The New Zealand psyllid was first reported in 2006 and was identified in glasshouses and fields from north Auckland to Taupo (Biosecurity 2006), and is likely to have arrived sometime in the previous four years before moving rapidly southward (Teulon *et al.* 2009). Lso symptoms were first identified in 2008 (Liefting *et al.* 2008). The outbreak of the Psyllid has been confirmed by the United States Department of Agriculture Systematic Entomology Laboratory. There are two distinctive haplotypes (different populations) of psyllid (Liu *et al.* 2006; Jackson *et al.* 2009), one originating in California and the other in eastern Mexico, and at least three haplotypes of Lso. The New Zealand psyllid is genetically consistent with Californian specimens (Nelson *et al.* 2011), and the Lso found in NZ matches specimens from the western regions of North and Central America (Liefting *et al.* 2008); however Lso research indicates a plasticity of genetics which suggests it mutates and becomes differentiated across space (Thompson *et al.* 2015).

The psyllid belongs to the wider *Psyllidae* family. It is a hemimetabolous insect with three distinct life stages egg, nymph and adult - other insects in this order include scale insect, aphid, whitefly, cicadas and leafhoppers. Adult psyllids resemble miniature cicadas, they range between 2-

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<sup>38</sup> Tāhuri Whenua has named them Kutu-peke a riwai and Kowhai kutu-peke respectively (Roskrug *et al.* 2010).

4 millimetres in size and go from a light yellow colour to brown or green colour as they age, and develop white bands across their abdomen back. They can mate within two-three days of emergence and males can mate multiple times. Females lay up to 510 eggs over their lifetime. Their eggs are laid over a period of twenty-one days and take three to nine days to hatch. The eggs are oval and yellow to orange in colour, and are perched by a small filament anywhere on the leaf edges or on veins of the under-leaf near the margins of leaves. Nymphs appear as small discs/scales on the underside of the leaf. They take 12-21 days to reach maturity, developing across five stages. Psyllid can have between four and seven overlapping generations per year.

Psyllid feed primarily on plant species *Solanaceae* (e.g. potato, tomato, tamarillo, chilli and capsicum), *Convolvulaceae* (e.g. kumara), and *Laminaceae* (e.g. Māori mint<sup>39</sup> or New Zealand mint, puriri<sup>40</sup>, and New Zealand skull cap<sup>41</sup>). It has also been recorded on at least another twenty species, but these do not support development across its full life cycle (Puketapu 2012; Tran *et al.* 2012). Known wild hosts present in New Zealand include species *Solanum* (e.g. black nightshade and poroporo), *Physalis* (e.g. cape gooseberry), *Ipomoea purpurea* (e.g. common morning glory) and *Convolvulus arvensis* (e.g. field bindweed). Populations of psyllid reach peak growth in summer and thrive between the temperatures of 24 and 36°C. Most prolific at the lower end of that range, they can survive and reproduce at temperatures as low as 7°C. Summer is when most potato crops are grown and psyllid has come to feed on them, but can also feed, shelter and overwinter on a number of plant species. Adult psyllids can also live temporarily on plant prunings or plants removed from the ground. They are strong fliers and can travel up to 1500m under their own steam or dispersed by the wind. They will move on when their host plants are no longer suitable. Unlike whitefly, psyllid nymphs will fly a short distance if disturbed. Under natural conditions the psyllid will decimate potato plants and reduce tuber yield tuber by up to 80%, which increases with Lso infection.

Adult and nymph psyllids feed in a similar manner to the aphid on the leaves and phloem of a potato plant where key nutrients are transported. The psyllid injects its teeth into these parts and intercepts the flow of nutrients, sapping the sugars vital to plant development. The plant is mutated, retarding its functionality. Their saliva is potentially toxic if it hosts Lso bacteria. In feeding, adults and nymphs inject saliva into the plant and leaves turn yellow ('psyllid yellows'), (Brown *et al.* 2010). The saliva stunts leaf growth, leaves shrivel and may become marked by a purplish hue. At the same time psyllid secrete a granular sugar-like substance (the 'psyllid sugars'), which makes the plant sticky and dirty in appearance. In potatoes, aerial tubers form (rather than under the ground), plant internodes shorten, and regrowth forms at the base of the plant. The potato tuber will be affected by 'chaining' (an external growth defect<sup>42</sup>) and some internal discolouration of the flesh, which typically appear as a browning of the vascular ring and/or

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<sup>39</sup> *Mentha cunninghamii*

<sup>40</sup> *Vitex lucens*

<sup>41</sup> *Scutellaria novae zelandiae*

<sup>42</sup> See <http://cropwatch.unl.edu/potato/chaining>

brownish streaks of the medullary rays (the veins within the tuber flesh which fork from the pith). These various conditions cause the plant to produce a smaller set of smaller sized tubers. They inhibit secondary tuber growth and cause tubers to sprout early, confusing harvest times and restricting storage option for sale or for seed.

Each of these conditions is also symptomatic of a distressed plant, one suffering from water stress or infestation by aphids or whitefly. Together with the psyllid's propensity to make a potato plant their home from reproduction through juvenile stages to adulthood, this can make treatment difficult. It is difficult to distinguish psyllid infestation from other diseases, while many agrichemical applications target only one life stage (predominantly the adult stage), the lushness of potato plants protect psyllid, which live predominantly on the underside of leaves, from sprays. The psyllid is resilient to most insecticides, and adapts quickly to new agri-chemicals (Berry *et al.* 2009; Page-Weir *et al.* 2011). While the southern lady bug, lacewing and hover fly are possible predators, they have had little impact on psyllid populations in New Zealand and there is little in the way of natural biological controls. Neither insecticides nor other insects have halted the psyllids proliferation.

In addition to all this unmaking work, the psyllid is also a natural vector for Lso, which can ultimately kill potato plants and render any produced tubers worthless. Lso is less well understood, although psyllids are known to carry and transmit it through their mouthparts and saliva as they feed on the potato plants (Munyaneza *et al.* 2010). Lso infection can be transmitted from (Lso)psyllid to plant and (Lso)plant to psyllid, but these processes remain under-researched (Munyaneza 2010, 2012; Buchman *et al.* 2011; Puketapu 2011). The bacteria develop in the plant's phloem and transform nutrient composition. It takes one infected psyllid to transmit enough bacteria to kill a plant.

Lso infection causes the plant to wither and the bacteria to travel down into the tuber. The plant will suffer leaf curling, yellowing and necrosis, and appear flagged with erect dead and dehydrated stems, and become unable to produce a typical number of tubers (if at all). Sometimes the plant will completely collapse. Within the tuber the bacteria mutates carbohydrates, transforming starches to sugars, this produces severe vascular discolouration (hence the name zebra chip) and a pink blush at the stem. Whilst an infected tuber may look fine at harvest, (albeit possibly with slightly yellower than usual flesh), the potato turns from white into a patchy brown and/or black when fried. While these potatoes are neither dangerous nor necessarily unpleasant to the taste, the fried potato is worthless commercially as processing companies will not purchase potatoes with the strained rings. Growers producing spuds for French fries, potato chips and so on have been particularly badly affected by Lso. For taewa growers, Lso produces the premature death of plants, reduced quantity and size of tubers, and tubers that are 'mushy and earthy in taste'. Infected taewa seed may not germinate and be less vigorous, thus weakening subsequent generations of plants and restricting opportunities to foster taewa economy (Roskrug *et al.* 2010). Saving seed can spread Lso infection, while exchanging seed across places may distribute Lso more widely.

## 7.2. The psyllid and Lso in New Zealand

It is uncertain how psyllids entered New Zealand. In research commissioned by the Ministry of Agricultural and Forestry, Thomas and colleagues (2011) reviewed a series of possible entry scenarios and concluded the psyllid most likely ‘hitched a ride’ on smuggled plant material rather than slipping through ‘regulated pathways’. Natural pathways seem implausible as New Zealand is an island far from known psyllid populations, while it seems highly unlikely that anyone would want to smuggle the psyllid itself into New Zealand as a form of sabotage. New Zealand has strict import and quarantine regulation<sup>43</sup>, but there is significant travel of people and goods between New Zealand and North America. The view that the psyllid entered with intentionally smuggled plant material diminishes state responsibility, but does not absolve it fully and is contested (Kale 2011; Puketapu 2011). It is almost certain that the psyllid arrived and spread along human induced ‘incursion pathways’, perhaps multiple pathways.

Once the psyllid was confirmed as being present, Biosecurity NZ issued a ‘restricted place notice’ and informed industry representatives and trading partners it was in New Zealand. A delimiting survey was performed and psyllid were found in Kumeu (north Auckland) and Pukekohe (south Auckland), and a sample was later submitted from Tāupo, it included samples found in glasshouses and the wild. Biosecurity NZ determined ‘the distribution, lack of linkages between infested sites, and the unknown path of entry’ meant the psyllid had established and then removed the ‘restricted place notices’ and ‘stood down the response to the incursion’ (Biosecurity 2006; Teulon & Hill 2015). Thus, unlike the fruitfly, apple moth, veroamite and PSA which have threatened key horticultural exports, little sustained official effort was made to restrict its movement by creating quarantine areas or restricting plant material movement or adopt measures to eradicate it (Teulon *et al.* 2009; Puketapu 2011). While officials claimed the psyllid was too ‘well established’ (Biosecurity 2011), however, potato growers I met and heard in my journey claim double standards.

Instead, the psyllid reproduced rapidly and moved freely across New Zealand spreading ‘naturally’ and with human assistance (Teulon *et al.* 2009). Pukekohe glasshouses offered a wonderful incubator, especially before growers knew the psyllid was there. By the time Lso was first reported from a Pukekohe based greenhouse in 2006, it is likely the psyllid was already on the move. A glasshouse average temperature of 18°C would allow the psyllid to complete its lifecycle within thirty-three days. Once established, the move from glasshouse to wild was easy given the

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<sup>43</sup> Any legal import of nursery stock or fresh produce is required to undergo a number of measures that the Ministry of Agriculture and Forestry and New Zealand Biosecurity have emplaced to mitigate the introduction of new insect species and biosecurity threats to New Zealand primary industry and native flora and fauna. Nursery stock includes any material used for propagation, such as whole plants, parts of plants (cuttings, scions, bulbs, corms, offshoots, tubers, rhizomes and tissue cultures etc.). Fresh stock includes all fruit and vegetables, and plant material such as flowers and foliage used by florists. At the source of export, people are required to adhere to pest management practices, and at the place of contact in New Zealand produce is required to undergo a number of treatments before products are released.

proximity of neighbouring potato fields. The average summer temperature of the region and neighbouring regions is well within the psyllid's preferred development range. The psyllid could easily have escaped the glasshouses in spring or summer, maybe even Autumn; and would have enjoyed a predator-free space in which to establish created by the agrichemical regimes of neighbouring commercial growers. Rumours within grower circles suggest the psyllid hitched a ride on an order of chilli plants destined to a nursery in Cambridge, dispersing it into other parts of the country via market exchanges and the circulations of plants and objects. With no controls on plant (and psyllid) movement and access to nightshade, poroporo and other host plants as winter feed, the psyllid freely established populations and nodes of proliferation in potato growing regions (i.e. Pukekohe, Manawātū, Hawke's Bay and Canterbury). Māori taewa growers from these regions experienced more damaging and earlier infestations than Māori elsewhere (i.e. the East Cape and Far North), although it has (and is) moving on to these regions

The geographical expansion of the psyllid was enabled and even encouraged by a combination of human and natural journeys, biological and climatic conditions, industrial networks and assemblages that brought different species into contact with each other, and a biosecurity regime that deprioritises domestic circulations. The psyllid has proven very damaging to potatoes and other suitable crop-species (eggplant, tomato, tamarillo) across multiple regions (Liefing *et al.* 2008; Teulon *et al.* 2009; Vereijssen *et al.* 2015). Potato crop losses are estimated to have been upward of 80%, and the potato industry has incurred significant costs due to increased management costs and the loss of export markets (Teulon *et al.* 2009; Kale 2011). New pesticide regimes have also proven costly, while the potato has become the target of lobbying by Australian Potato Grower organisations looking to ban the import of any potato product from New Zealand (fresh or processed). Taewa production is also estimated to be down by 80% (Roskrige 2014), with growers in industrial potato cropping regions heavily impacted by their proximity to large scale potato operations using commercial cultivars. Securing the survival of taewa's biological and cultural lives is under threat.

### **7.3. Knowing the psyllid and Lso: journeys, encounters, exchanges**

... an insect and virus is killing all the potatoes and soon there will not be any left in New Zealand ... the pesticides are only making it multiply ... you've got to protect your seed ... the government is doing nothing ... we must protect ourselves (Potato distributor, pers. com 2009) .

My first encounter with the psyllid in a taewa economy was initiated with this plea from a Māori taewa grower and organic foods distributor in 2009 (FitzHerbert 2009). Other growers had been reporting crop loses at the time, but the psyllid was largely unknown. Since then, it has become increasingly visible as an agent of a bio-cultural politics of unmaking and reassembling in taewa economy. I have had multiple encounters with psyllids in taewa gardens, from desperate accounts of their destructiveness given by growers, to the strategized responses of grower organisations, scientific research, and my own losses of crops and seed lines due to infestation. It is possible but

unlikely that my own journeys moved bacteria-infected taewa seed, and even less likely that any seed infection would be translated to the next generation. Whilst as an insect, the psyllid has a right to live, my positionality as a grower who has lost multiple crops of taewa and has witnessed the way it undermines aspiration in Māori economy leads me to recognise it as an enemy, albeit one with which growers and taewa must learn to co-exist.

Table 7.1 summarises how I have come to know the psyllid in the period since this encounter. It is in effect a genealogy of coming to know and live in an emergent taewa-psyllid assemblage. The genealogy is constructed from a following of three journeys with the psyllid: a discovery of psyllid worlds; an engagement with research; and a reframing of knowing and doing taewa economy in what are now psyllid-taewa-grower relations. By following the psyllid as object I was able to see how it re-constituted the taewa economy. The rest of this chapter traces this genealogy and the reassembling of economy that it encompasses from connections among psyllids, taewa, growers, scientists, industry and state. It draws on material from the last two chapters and directs particular attention to the way in which the reassembling of taewa-psyllid-grower relations has ‘overflowed’ into new collectives of situated experimentation and knowledge production.

**Table 7.1 Learning from journeys and encounters with psyllid.**

Time	Journey	Actors	Encounters	Learnings
2009-2012	Something is killing our taewa	Tāhuri Whenua, growers and taewa gardens (Bulls, Hastings, Palmerston North, Otoua)	Hui, conversations, taewa, bugs	Effects on crops, growers
2010-2014	Research and Investment	ALMAC; Tāhuri Whenua; Potatoes New Zealand	Conversations; hui; Research documents	Research results; Asymmetries of knowledge; Articulation
2011-2014	Learning to live with psyllid: reknowing/redoing taewa economy	Aleise Puketapu; Nick Roskruge; Tāhuri Whenua	Hui; science; Sustainable Farming Fund projects	Situated knowledge production; Learning to be affected (hope and responsibility); What happens next

#### **7.4. *Something* is killing our taewa: Psyllids in the Māori economy**

Between 2009 and 2010 it was common to hear ‘something is killing my taewa’ and ‘my crops produced nothing’. This was something new. Taewa growers were asking questions about why their crops failed. The plants looked healthy; they had lots of leaf matter and they flowered, but they yielded no taewa. The psyllid was first named as a feature of taewa economy on marae in 2009 and has since then emerged in nearly all taewa growing regions. Figure 7.1 identifies the spread of the psyllid around the country and the Tāhuri Whenua hui at which news of its arrival was progressively announced. As the psyllid has become known and the loss of taewa attributed to it, it has become a central item on the agenda of the Tāhuri Whenua AGM and Hui-a-rohe. Nick Roskruge (NR) and Aleise Puketapu (AP) have shared scientific and industry information about the psyllid and its spread at hui. They have also brought in scientists to translate up to date information for growers,

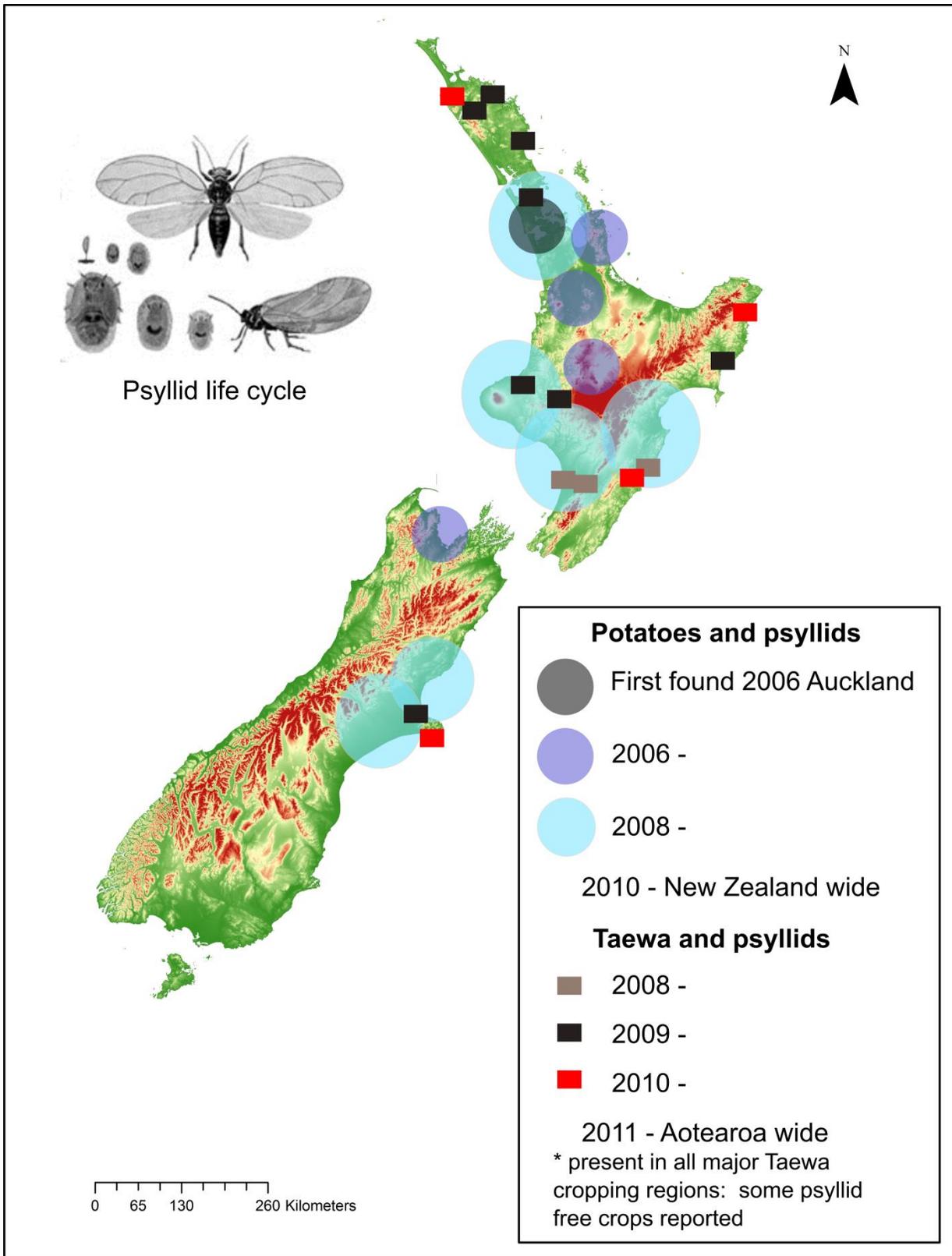
including Stephen Ogden the lead psyllid scientist at Plant and Food Research. While a few growers from remote regions have reported some taewa success, stories over the last four years have been of ever-increasing infestation and shared loss, often of entire crops. Taewa production has been reduced by almost 80% (Roskruge 2014).

Among the characters to whom we have been introduced in earlier chapters, the story has been dire. The Uncles, who have been involved in growing taewa since they were children and regard it as a taonga, have been badly affected. Their harvest is typically exchanged with whānau, marae, schools, Tāhuri Whenua members and other Māori gardeners. They lost an entire crop intended to support a big reunion event and have been forced to use insecticides and thus give up the commitment to traditional practices that underlies their gardening and their rationale for growing taewa (see Section 5.2). In Uncle Peter's own words, 'it is really the only option if you want to produce some taewa. Whilst this may not be traditional, we still employ cultural practices, values and traditions, but we need to change our practices a bit in order to keep taewa alive'. As he says, more generally, the psyllid has 'been a bugger for us, we've lost repeated crops, but thankfully we're located pretty close to Nick (Roskruge) and he's been able to help manage our crops'.

Makuini, who grows taewa on whānau land and a community allotment in Taitokerau (Section 5.2), is more direct. She says simply of her first encounter with the psyllid, 'my perus didn't grow' and 'all I harvested were little pebble sized perus'. Ultimately this rendered the 2009/2010 crop largely unsellable, she salvaged what she could selling some at Kerikeri Farmers Market, albeit about 95% less than the harvest she expected. Furthermore she was left with no suitable tubers to store as seed for the next crop, meaning she would either have to stop growing or purchase seed taewa. Recently, in March 2012, Makuini reported that 'up here in Taitokerau our peruperu look as though the psyllid has affected them again'. She reports further that her account echoes that of other growers she had spoken to 'the other week' near Kaitaia.

Hanui, a stalwart of Tāhuri Whenua, has grown taewa for a number of years (Section 5.2). She reports having experienced successive crop failures. After a bumper first crop of taewa in 2008, Hanui has described her cultivation of what she calls riwai as 'heartbreak'. She was unaware of the threat of the psyllid and saw a big future in riwai. Her subsequent crops have produced little or no riwai. Her 2009/2010 crop was a significant investment (in excess of \$1000) and was destined to be sold in local supermarkets, with the surplus to be sold as seed. However, the crop failed and resulted in a significant loss to her livelihood. She has continued to grow riwai, but on a smaller scale.

Figure 7.1 The spread of potato psyllids and news of its arrival at Tāhuri Whenua hui



In journeys with Tāhuri Whenua and Aunty's Garden and chance encounters at the Australasian Agrifood Network Conference (Auckland 2009, Traralgon 2010), I was also introduced to Ngāi Tahu's Ahikā Kai project (Barr 2010, 2011; see also Te Karaka 2012; Barr & Reid 2014). Ngāi Tahu are the largest South Island iwi and the encounter with Tremane led me to visit Putahi Farm on Banks' Peninsular in Canterbury in 2011. Te Rūnanga o Ngāi Tahu had undertaken a market feasibility report on the commercial opportunities of riwai as part of a similar market-making experiment (He Whenua Whakatipu) to that of Aunty's Garden. The experiment sought cultural revitalisation and new economic opportunities for Ngāi Tahu. The report resulted in the investment of land, labour and capital in producing riwai (taewa) and the development of an Aunty's Garden like virtual market place, free for small to medium sized Ngāi Tahu enterprises to sell their products to 'the market' under the auspices of the brand, Tahu Kai. Bred in the more corporate-savvy world of Ngāi Tahu nearby to Icebreaker's world of the Baa Code (see Pawson & Perkins 2013), the initiative also added traceability to provenance narratives and was built on explicit efforts to produce 'premium products' and foster business networks and marketing skills among small Ngāi Tahu agri-food producers. Nonetheless, Ahikā Kai sought to negotiate the same tensions experienced by Aunty's Garden between a 'value-added' brand and providing kai which is affordable for whānau that complicate relations between taewa (riwai) and their eaters/consumers. It would also have to deal with the psyllid.

Approximately four hectares were cultivated for riwai production in the 2010-2011 growing season. They grew a variety of riwai cultivars, including one called ōtākou, which was discovered five years earlier growing wild on the Banks Peninsula. Ōtākou is an authentic Ngāi Tahu riwai cultivar – 'a real taonga variety' (Barr 2010, 2011). The feasibility study had outlined the threat of the potato psyllid, but concluded that 'riwai varieties appear to be less susceptible'. However a psyllid infestation destroyed much of the crop. Project leader, Tremane Barr, said at the time that he would be lucky to produce at least one bag of 'showable riwai' (Barr 2011). This meant that the riwai project would struggle to meet the expectations of the Trustees of both the farm and the wider iwi organisation. Tremane had hoped the riwai could have been exchanged through Ngāi Tahu's Ahikā Kai brand and market platform, but the psyllid made this impossible and the riwai project did not receive ongoing investment. Despite the loss of the commercial crop, however, Tremane's own riwai plot at his home garden in Christchurch was unaffected by the psyllid, and he gave me a sample of ōtākou and other riwai cultivars to take back to Tāhuri Whenua to protect seed lines.

In my own experiment, I sought to collect and cultivate as many cultivars as I was able to access, either by being gifted them over the course, purchasing them, or exchanging taewa that I grew myself. That is, I took up taewa cultivation so as to grow my own food and establish a personal seedbank that could be used to offer as koha when I met with taewa growers or other Māori research participants. In this way I sought to gift seed back to Māori. I enjoyed mixed success as a grower. Of the four crops I planted at my family home in Northland, two failed and two

produced a taewa yield<sup>44</sup>. I also grew three crops in Auckland, all of which failed other than a small experiment with cultivating taewa in a bucket. In all I probably moved upward of ten kilograms of seed to marae and growers. Whilst it was unlikely the seed carried psyllid and was at the time believed to have few risks<sup>45</sup>, the seed may have been Lso-infected and I may have inflicted Lso infections on crops around the country. In my own gardens, I have lost all my seed-lines, although tutaekuri still pop-up each summer at my family home.

### ***'New pest alert': Psyllids and the commercial potato industry***

New Zealand's potato industry is facing one of the biggest bio-security threats in our country's history (Terry Olsen, PNZ Chairman 2011; quoted in Morgan 2011).

The New Zealand potato economy produces 2.8billion potatoes per year with a value of \$570million (PotatoesNZ 2015; Plant and Food Research 2014). Most New Zealand grown potatoes are produced for processing and export, and fresh potatoes tend to be solely consumed domestically. The emergence of the psyllid Lso has dramatically changed the landscape of the potato industry. Growers incur significant costs in the chemical fight against psyllids, and in particular the presence of Lso has rendered most potatoes *reject* (worthless) and contracted lines of industry. As Kale (2011) reports many growers consider the psyllid has added *another layer of burden to what was already a very marginal business*. Indeed, many growers, who are not locked into potato growing contracts, have either cut back production or walked away.<sup>46</sup> Potato psyllids and Lso are estimated to have reduced New Zealand potato crops in New Zealand by over 50% and the financial cost is estimated to be approximately \$60 million (see for example, Morgan 2011; Kale 2011; Potatoes NZ 2014); although this figure is probably in excess of \$100million when the costs of lost production, psyllid management and research are added (Morgan 2011). AusVeg has claimed the cost of Lso in NZ to be \$200million (AUD) and mobilised this figure in their lobbying to ban the import of New Zealand potatoes (Briscoe 2014); which Potatoes New Zealand disputes as being a *myth* (Jasper 2014). Kale (2011) estimated that the cost alone to other psyllid susceptible fruits and vegetables was over \$40million in 2007: fresh tomatoes \$7.7M, capsicums \$33.6M and tamarillos \$0.7M. Despite the late season infestation in 2007/08 insecticide use increased by \$240,000, additional crop monitoring costing \$60,000 was incurred, and a 10% reduction in yield valued at \$400,000 was observed. Potato growers are estimated to have spent an additional \$10-\$15/tonne on control measures, such as insecticides and contracting psyllid experts to monitor crops (Potatoes NZ 2014; Kale 2011; Olsen 2013). Growers contend with extra worry, and they and industry have

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<sup>44</sup> My father, who undertook maintaining the garden reflected that 'these Māori spuds you brought here don't grow anything'.

<sup>45</sup> I discussed the practice with advisers at Tāhuri Whenua, who suggested that it was appropriate and not risky.

<sup>46</sup> Reports from Mexico and Texas highlight the dire situation of contract growers. If Zebra Chip is found in 10% of the tubers, processing companies will reject entire paddocks. Furthermore the potato seed industry (which underpins potato production) is also threatened by the suspected significant impact of bacterial infection on the germination of tubers (estimates from America suggest a reduction in emergence of 97%). Accounts and figures of this situation in New Zealand are not yet available.

lost the opportunity to promote product as being spray free, and there are significant worker health and safety concerns due to over exposure to chemicals (Kale 2011).

Potato imports have been banned as a bio-security threat in countries where the psyllid has yet to be found (Crosslin *et al.* 2010; Walker *et al.* 2015). ‘Fresh’ potato imports from New Zealand have been banned in Australia and USA-grown potatoes have been banned in South Korea. Other countries, in particular in Europe may also impose bans due to the perceived risk of invasion (see, for example, Suffert & Ward 2014; Munyaneza 2015). While processed NZ potatoes can still be exported to both South Korea and Australia, Australian potato organisations represent New Zealand grown potatoes as disease laden and a major bio-security threat to Australia’s potato industry and are lobbying for a ban on all NZ potato products, fresh and processed. Additionally, the Australian potato industry, along with scientists, set up a psyllid surveillance programme in 2011 where some 2300 psyllid traps have been placed in potato plantations from Queensland to Tasmania, and have also investigated the possibility of wind dispersed psyllid invasions from New Zealand – to date no psyllids have been registered (Walker *et al.* 2015). Australia is New Zealand’s largest potato export market. While NZ only exports processed (frozen) potatoes (French fries, chips, etc.), which are believed to ‘pose no risk’ to the production of potatoes, NZ growers want to expand fresh and processed markets in Australia and to export fresh potatoes for processing at destination. The ensuing debate, which came to a head in 2014 at the Australia-New Zealand ‘Fresh Connections’ trade conference in Sydney<sup>47</sup>, rests on the particular risk posed by potatoes as a vector for Psyllids and Lso. The Australian senate has banned the import of all fresh New Zealand potatoes. However, Australian and New Zealand potato industry figures and scientists have instituted new collaborations in the *fight* against psyllids and Lso.

## **7.5. Research encounters: investing in coming to know psyllids**

As a relatively new pest (both in New Zealand and worldwide) the psyllid is relatively *unknown* as is *management*. What is known is its damage to taewa and potatoes, which is most likely ‘here to stay’. Its costs have provoked state investment in research, which has entangled taewa in the national science economy. In this section I follow the journey of the psyllid’s entanglement in the science economy through a set of specific encounters in the form of both formal research projects and encounters with researchers in the wild. To date the psyllid has resisted taming by agrichemical regimes, and science has been focused on psyllid mitigation and prevention. However, this is not so easy in taewa economies, both because of financial costs and implications for taewa values (cultural and food safety).

### **7.5.1. Researching the psyllid**

Tāhuri Whenua, Potatoes New Zealand, research organisations and State agencies have all invested significant funds and resources in the ‘fight against’ the psyllid. Industry peak bodies Potatoes New

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<sup>47</sup> *The Big Debate: Strong biosecurity – the costs and benefits for vibrant fresh produce industry.*

Zealand (PNZ) and Horticulture New Zealand (HNZ) co-fund research with state agencies through member 'potato levies'. The arrival of the psyllid has led to an overall increase in the PNZ potato levy and a reprioritisation of research over other categories of spending such as leadership and export market development. The levy has increased from 75cents/\$100 to 85cents, and is set to increase further to \$1, to fight the psyllid and position PNZ to respond more quickly in the event of another pest incursion. PNZ also provides doctoral research scholarships, effectively co-investing in research with PFR, Lincoln University and Massey University. In total, PFR claims to have invested \$3.6million in psyllid research between 2009 and 2014, some of it co-invested with Lincoln and Massey universities and Tāhuri Whenua. Some of this is drawn from PNZ, but much from state agencies. In one programme alone, the MPI's Sustainable Farming Fund, they have invested \$1,068,000 in psyllid specific projects,<sup>48</sup> while MBIE has invested in excess of \$1,000,000. These projects are listed in Table 7.2. They include a mix of field-based observation and experimentation and laboratory based experimentation, and focus attention primarily on controls, chemical and biological. The research has involved a mix of funders and researchers, and in the smaller scale projects. A total of \$9.2m has been spent on research from 2009-14, and among those projects where the breakdown of contributions is available industry sources have contributed roughly 60% of the budget.

Other actors are also involved in projects and experiments. Growers everywhere continue to experiment. Ngāi Tahu has extended their working relationship with Lincoln University in Canterbury to work on psyllid research. Kōanga Institute (a heritage-seed-saving charitable organisation) initiated a 'Sponsor a Spud' campaign in 2011. The Institute has a broad collection of taewa cultivars. People were invited to sponsor a cultivar for \$40/cultivar/year. The Kohanga Institute has published a guide of organic practices to control potato psyllids. They suggest that psyllids can be managed under a regime of applying multiple organic oils and fertilisers. The Institute proposed that *'by sponsoring this potato for a year, you will be helping us to strengthen the genetics of this cultivar, to develop disease resistance and maintain the line, and to make it available to our members and the public in the future ... and for future generations'* (Kōanga Institute 2011). Sponsors would have their name linked to the cultivar and published on the Institute's website. The funds would be used to maintain seed collections and investigate organic options for managing the psyllid.

Collectively, these research-led engagements with the psyllid through laboratory, field and other imaginative experimentation growers, have brought growers (corporate and small), government and science together in a coordinated effort to know and combat the psyllid. As the range of projects in Table 7.2 indicate, this has involved multi-form encounters at multiple sites among

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<sup>48</sup> The Sustainable Farming Fund is a contestable applied research investment fund open to producers and organisations from the agricultural, horticultural and forestry industry. Applicants may request up to \$600,000 for a three year project (\$200,000/year), they must match SFF with their own investment. Since the year 2000 it has invested \$NZ1.9m in potato specific projects out of \$NZ120m in primary industry. It has awarded \$260,000 in 2015 (awaiting contract). <http://www.potatoesnz.co.nz/hot-topics/cropping-systems-rotation/sff-funding-for-yield-project/>

humans, between humans and things, and among things; things that have become matters of concern and non-human actors in this collective experimentation. The current state of play with respect to these various research encounters, is represented as a set of questions and propositions with respect to assembling multiple agency to live with the psyllid on better terms for humans. In a sense they capture what has been learned and what more needs to be learned with respect to living with the psyllid. The work of biological control agents is being looked to widely for help (see for example, Gardner-Gee 2012; Pugh 2013), as are physical (non-chemical and non-biological) agents such as mesh nets and oils (see for example, Lincoln University 2015).

**Table 7.2 Psyllid Investment and Research**

Project (Duration)	Investment (NZD\$)	Human Actors	Research subjects
The lifecycle and epidemiology of the Psyllid. (2009-2010)	State: 17,500 (FRST Te Tipu Putaiao Fellowship) Industry: in-Kind (Tāhuri Whenua and taewa growers)	AP, NR, Tāhuri Whenua, Massey University	Field-based observation
Biology of TPP and efficacy of a natural predator. (2009-2012)	State: Unknown Industry: 85,000	Luc Tran, Lincoln University, PFR and PNZ	Laboratory based experimentation:
Sustainable Psyllid Management. (2009-2012)	State: 600,000 (SFF Grant# 09/143) Industry: 937,700 <sup>49</sup>	HNZ, PNZ, PFR	Field and Laboratory based experiments: - Controls: chemical (insecticides) and biological (beneficial insects and companion plants) - National Psyllid Monitoring Programme - Entomopathogens (e.g. fungi) - Tuber storage, Zebra Chip development.
Developing IPM Tools for Psyllid Management in Potato. (2011-2014)	State: 275,000 (SFF Grant# 11/058) Industry: 300,700 <sup>50</sup>	PNZ, HNZ	Field and Laboratory based experimentation: - Agrichemical application practices (frequency and combinations) and Non-chemical practices (e.g. oils, clays, repellents).
Potato Research Project	NA	Kōanga Institute	Field-based experimentation: Organic practices – bio-sprays and fertilisers
Sustainable Māori Land-Use Through Crop Rotation and IPM. (2011-2014)	State: 180,000 (SFF Grant# 11/060) Industry: 111,000	Tāhuri Whenua and PFR	Field-based experimentation: - Western and Māori knowledge and practices. - Crop trials on small land plots. - Agrichemical and Non-chemical practices
Assessing the Potential for the Psyllid Parasitoid <i>Tamarixia Triozae</i> to Establish in NZ. (2012-2013)	State: 12,000 (SFF Grant# L12/116) Industry: 13,500	NZ Tamarillo Growers Association, Plant and Food	Laboratory-based experimentation: - investigate whether parasitoid <i>Tamarixia triozae</i> (a natural psyllid enemy in Mexico) could be introduced into New Zealand. - computer modelling and techniques to predict predation on psyllids in the wild.
Continued next page			

<sup>49</sup> PNZ and HNZ drew on numerous contributions for ‘industry investment’: Potatoes NZ Charitable Trust (donations from industry partners and growers); Fresh Tomato/Vegetable Product Groups; NZ Tamarillo Association; FRST/MSI; PFR Internal Investment; Horticulture Australia Ltd; McCain Foods; Mr Chips; Bluebird Chips; Bayer; Dow; Syngenta; and in kind contributions include Heinz-Watties and Fruitfed Supplies and Horticulture.

<sup>50</sup> As per above.

Project (Duration)	Investment (NZD\$)	Human Actors	Research subjects
Realising potato export growth through sustainable management of the zebra chip disease complex. (2013-2019)	Total: 6,665,400 (division between State and non-State investment unknown)	PNZ, PFR, Tāhuri Whenua, and international scientists	Lab and Field-Based experimentation: Genetic analysis of plant, tuber, psyllid, Lso. Insecticide resistance; Development of psyllid and Lso resistant (or tolerant) potatoes. Development of disruptant/attractant tools based on psyllid sensory cues.

### 7.5.2. Experimentation, situated knowledge production, and translating science into taewa economy

Whilst New Zealand’s larger industry and corporate actors are able to invest substantial monies and develop intensive research, the taewa economy does not enjoy significant financial investment beyond contestable State research funds and their relations to research institutions. Tāhuri Whenua has set about knowing the psyllid in Māori terms for taewa economy. They have successfully generated state investment and enrolled other actors into *working for* this project, with AP and NR mobilising actors and resources within their own particular research institutions (Massey University and PFR respectively). Together with the Tāhuri Whenua seed bank, student projects, and crop trials at Massey University, AP’s encouragement of PFR scientists on the crop management and rotation project has initiated a knowledge production and learning project situated in the grounded practices of taewa growers. Growers have high expectations of Tāhuri Whenua, and the stakes are high as the survival of taewa may depend on better knowing the psyllid. Two examples of situated knowledge production illustrate a more grounded learning to live with psyllid.

#### ***Tāhuri Whenua’s mobilisation of the Sustainable Farming Fund***

Tāhuri Whenua has been instrumental in assembling academic capital and state funding into formal research initiatives to investigate the psyllid (see Table 7.2). Its efforts have focused on the production of knowledge and learning that are both situated in place and in the interests of growers; and in the case of its crop management project, it has contracted the researchers (from PFR), controlled the project, and owns the knowledge produced (through intellectual property agreements). This project had two field-experimental foci: taewa crop rotation in small garden plots (based in Palmerston North); and Taewa seed tuber quality (based in Pukekohe). They own the project and any valuable findings or intellectual property that may arise from it, and they contracted PFR scientists led by Puketapu to undertake the work. The project ran between 2011 and 2014 and focused on biological controls and crop rotation, in effect as alternatives to chemical insecticides as a basis for dealing with psyllids.

The crop rotation experiment sought to evaluate the influence of crop rotation on taewa yield and the incidence of pests and diseases on small plots of land, the typical production form of most Māori gardens and taewa plots. It aimed to identify sustainable production tools and technologies to optimise annual crop quality and quantity in the presence of psyllid (Tāhuri

Whenua 2014). The experiment investigated four different crop management regimes (conventional, traditional Māori, bio-fumigant, and unsustainable growing methods). The experiment yielded three main findings: Higher yield in the conventional management regime in the final year of the project; a wider array of soil-borne pathogens occurred under the 'unsustainable' treatment regime; and reduced post-harvest tuber disease symptoms in all treatments. These findings suggest the psyllid is here to stay. Chemical application may mitigate infestation, but the cost to Māori growers makes these regimes largely unfeasible. The psyllid in terms of its management in Māori gardens demand situated knowledge production to understand how Māori can learn to live with psyllids.

The seed tuber quality experiment assessed the effects of farm (or self) saving seed tubers on crop performance and the potential carryover of tuber-borne viruses and diseases (bacteria), particularly (Lso). The experiment was conducted in the 2012/2013 growing season and was repeated in the 2013/2014 season. The aim was to assess the impacts of planting small versus large taewa seed tubers (typically people have used smaller rather than large seeds), and the impacts of different psyllid management strategies on seed tuber and subsequent crop performance. This research suggested that: applying no insecticide severely reduced crop yields; seed tubers produced under a low spray regime performed as well as those from the full spray treatment; and seed tuber size has a significant effect on yield, with larger seed tubers (40-74gram) performing better than smaller seed tubers (<40 gram) when planted at the same density.

The findings have significant implications for taewa growers, especially those growing taewa in gardens within small-scale Māori economies. These gardeners, while often financially excluded from using insecticides, might be encouraged by the finding that a low-spray regime is as effective as a larger scale regime, at least at the moment. However, for many Māori growers, not only is the cost of insecticide still a deterrent in this respect, but so too are commitments to organic production or traditional practices. On the other hand, access to virus-free seed, concerns with traditional practice and issues of the ontological status of the taewa aside, the virus-free seed is the optimal size for cropping. While more ominously, other studies suggest that Lso is present in taewa tubers and will reduce the quality of seed and its ability to produce future tubers (Puketapu *et al.* 2013; Puketapu & Gardner-Gee 2013; Gardner-Gee *et al.* 2014), garden-based learning about restricting psyllids and socio-cultural negotiations around minimal chemical what is apparent is that taewa gardeners will need to confront and work with these contradictions or lose the capacity to produce taewa. Longer term solutions may arise from biological controls, but in the short term producing taewa and the capacity to reproduce them through seed will require on-going interventions.

### **Seed-banking**

Tāhuri Whenua (via NR) maintains a seed bank at Massey University, Palmerston North. The collection, which includes a number of taewa varieties, was established from taewa gifts accumulated through NR's research in the early 2000s. More recently, growers from across

Aotearoa concerned about the survival of their particular taewa cultivars have entrusted seed to NR and Tāhuri Whenua as taewa guardians. I too have gifted seed to the seed-bank. In material form, the seed-bank is composed of multiple buckets in which cultivars are grown in a controlled environment (the Massey University glasshouses). University students conduct the planting and growing, which is overseen by NR. Should growers lose their cultivars, they may ask for samples of these cultivars to be returned from the seed-bank once they are confident that the psyllid-risk is manageable. As a guardian, NR has also sought outside help from the International Potato Centre, which has offered to incorporate taewa cultivars into the International Seed Bank of more than 4000 different potato cultivars grown in three different countries. In summary, the project is bottom-up, gift-based and regulated by trust and socio-cultural commitments to the future of taewa.

### **7.5.3. Cracking the genetics of taewa**

Scientists have cracked the genetic code of the potato. This creates the potential to selectively breed new varieties much faster with improved nutritional value and yields increased resistance to drought, extreme temperature and diseases and pests such as psyllid (Terry Olsen, PNZ Chairman 2011).

PFR scientists, including Aleise Puketapu, are using genetic research to investigate whether older taewa varieties are resistant to psyllid and Lso. Funded by MBIE, PNZ and others, the Taewa Resistance Research Project is part of the 'Realising potato export growth through sustainable management of the zebra chip disease complex' project (see Table 7.2). As Aleise claims, 'it's about broadening the search for resistance; if we don't look, we won't find anything'. Since taewa have not been subject to the same inputs as commercial potatoes they may have developed resistance to common potato viruses and pests (incl. the psyllid and Lso). Should a taewa cultivar demonstrate any resistance this could be cross-bred into commercial potatoes to create a psyllid and Lso resistant commercial potato that might save the potato economy 'millions of dollars' and become an exportable object in itself.

The project has a situated learning dimension and was featured on Māori Television's Project Mātauranga series in 2013. It included interviews with AP, a central figure in the research, other PFR scientists and NR (see, Project Mātauranga 2013). In relation to taewa, AP claims:

the Taewa Resistance Research Project' hopes to find resistance to the psyllid pest, which is costing the commercial potato industry millions in lost export earnings ... There was very little research on how taewa varieties specifically respond to the psyllid and Lso. Taewa aren't part of the mainstream commercial crop, and that's where the potential for difference in tolerance or resistance to the psyllid comes in. If there are varieties which are more tolerant of the psyllid then that can be incorporated (breed) into new generations of potatoes to provide more options for potato growers ... (taewa) could have a role in saving Aotearoa's commercial potato industry (Puketapu, in Project Mātauranga 2013).

Tāhuri Whenua and PFR both support AP enthusiastically, but have particular aspirations and expectations of her work. She sees herself as ‘working on both sides’ (Māori taewa economy and science-industry production) and accountable to both organisations. She has sought to align her research career and institutional obligations with Tāhuri Whenua’s broader project and taewa’s cultural economy, acting as a point, moment and translator between economies through which access to taewa varieties and knowledge and potato science is negotiated and mediated. She tries to emphasise the virtues of this responsibility rather than the burdens, suggesting that, ‘not every scientist gets to go out in the field and plant seeds and watch their plants grow and help in the harvest – it’s definitely a perk in my job’ (Puketapu, in Project Mātauranga 2013). In her research, AP drew on PFR research and on Tāhuri Whenua, relatives and the Kōanga Institute to obtain access to thirty of the seventy known taewa varieties, many of which have not been seen in years. She hopes that aligning Māori with commercial growers through the research project will yield rich mutual benefit.

The experiment involved submitting two taewa cultivars to two crop trials in Pukekohe (South Auckland). The first trial screened taewa characteristics to see if they have any particular genetic resistance to Lso and psyllid, either in raw or fried form. Potatoes showing resistance are marked for further experimentation. The second involved a yield trial where three of the most common taewa varieties were subjected to three different management regimes: full agrichemical spray, with the taewa thus under little or no psyllid pressure; a medium-spray regime, putting taewa under mild psyllid pressure; and a no spray regime under which taewa were subject to natural psyllid pressure. Plot size mirrored typical Māori grown taewa gardens (see Section 5.3). The results indicate differential resistance by variety, although these are confused by difficulties in identifying Lso infection given that the taewa’s natural vascular rings resemble the key indicator of infection. To date, however, tutaekuri have demonstrated some Lso resistance. The results will be reported to PNZ and PFR, who will decide whether to continue the experiment, or even extend it to consider cross-breeding taewa qualities into mainstream potatoes to produce an Lso resistant commercial potato.

The stakes are high, a resistant potato would be worth millions of dollars and allow potato growers to export, reduce agrichemical inputs, and allay consumer fears of insecticides. NR suggests that the project might also make a significant contribution to pest and disease management as well as survival in taewa economies. As he says, ‘once they’re lost they’re lost; our duty is to maintain these taewa for future generations’ (Roskrige, in Project Mātauranga 2013). Genetic diversity in potatoes enhances opportunities for future pest and disease management where potato plants and insects have become resistant to routine agrichemical regimes and international seed development programs seek to develop new cultivars with resistance traits to as yet unknown diseases. The project may plot new futures for taewa, lines of expansion, commercial possibilities, and ontological forms, and a different tuber-psyllid-Lso-human relationality. Yet as products of this genetic research programme, they will be developed in a kaupapa Māori initiative – ‘grown by Māori growers on Māori land with a Māori future in mind’ (Roskrige 2013, in Project Mātauranga

2013). This is a big claim and one riven with contradiction and further contradictory potential, and awaits controversial debate.

#### **7.5.4. Shared matters of concern in knowledge making encounters with taewa**

The kaupapa Māori of modified taewa is but one of the shared matters of concern across taewa economies, commercial potato economies, and Māori-state-environment relations, encompassed in this journey into knowledge production with the psyllid. In seeking to come to know the psyllid, the research projects and grounded experiments have drawn on old and new relationships between a diverse set of actors. They have assembled that which would not normally be assembled. What has emerged is an economy of knowledge making around the psyllid, involving investment, science, trial, experiment, kaupapa Māori, taewa, potatoes, psyllids, gifting, whakapapa relations and much else. Yet the psyllid refuses to be corralled, tamed, subjected to the propositions of science and management and eradicated. Indeed, the New Zealand psyllid and Lso appear to be becoming unique to this place. They have become strangely indigenous as well as a node of articulation between taewa and commercial potatoes, and Māori and industrial economy. NR and AP have been caught up in, and become important mediators, in this articulation by constructing situated knowledge making projects for taewa, translating research, and mediating between Māori and taewa worlds, operating very much for taewa and their Māori growers.

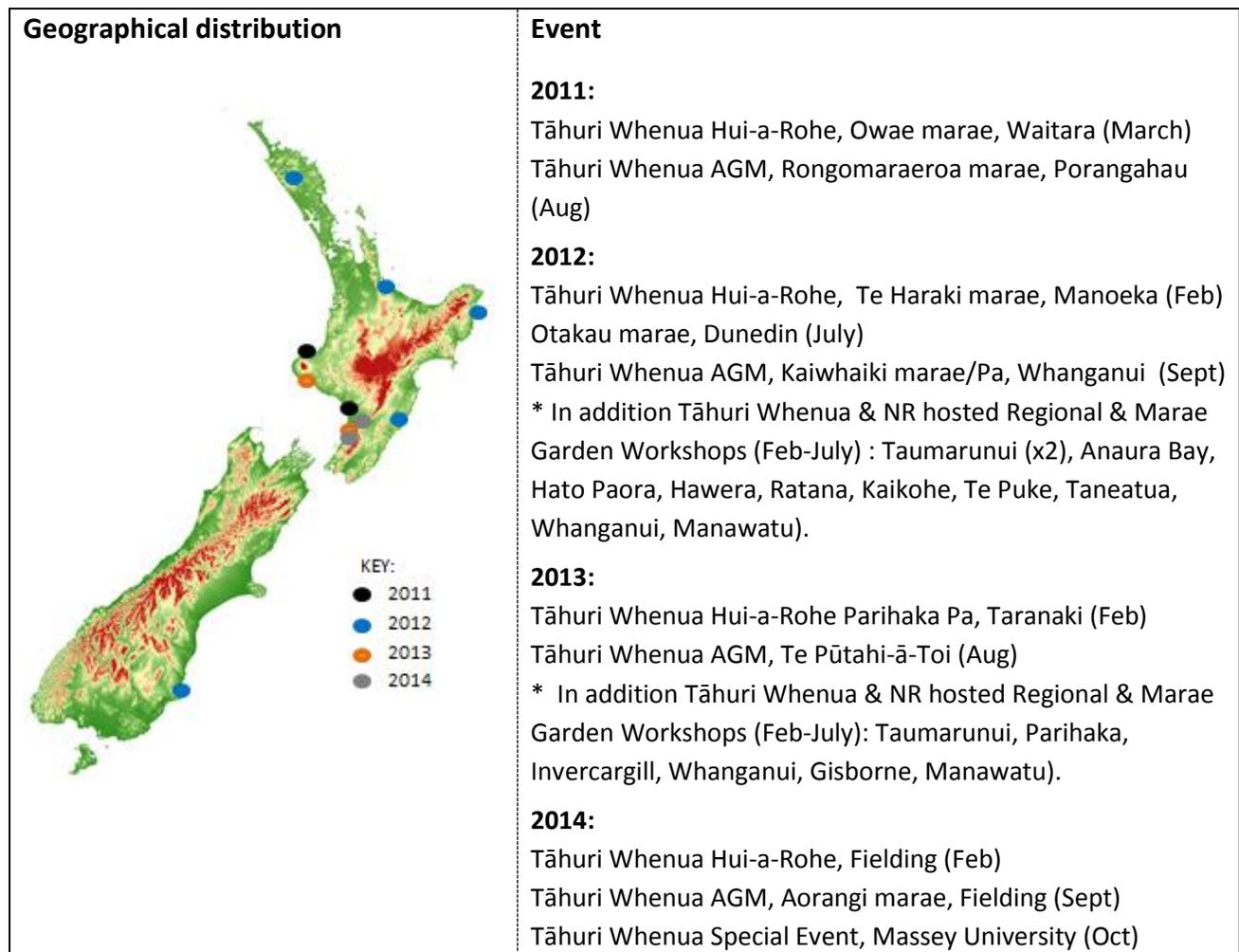
#### **7.6. Learning to live with psyllid in the new taewa economy**

The psyllid has caused havoc and heartbreak for taewa growers who have been forced to rethink themselves as well as their enterprises and relationality to taewa. Tāhuri Whenua and other organisations charge themselves to find suitable and practical solutions to keep the taewa economy alive, despite the psyllid and its effects on potato growing in New Zealand. Māori taewa growers understand that the psyllid is here to stay and have sought to approach taewa cultivation in the presence of the psyllid as a challenge to work around (and with). There is a cultural dimension to this approach deriving from a Māori-Nature worldview in which both pesticides and genetic manipulation are seen as culturally inappropriate. This section discusses how Māori growers 'grow on' with the psyllid.

Tāhuri Whenua Executives and invited guests translate research-derived knowledge of the psyllid and related management practices and strategies in face-to-face hui with taewa growers (see Figure 7.2). These encounters take place on marae and in gardens. Where face-to-face encounters are not possible, they take place on the website (<http://www.tahuriwhenua.org.nz/>). The content of the research and related materials are placed into circulation, as are the experiences, effects and affect of the encounters. For example, AP delivered the results of the SFF research at a specially organised Tāhuri Whenua hui at Massey University (Palmerston North, 30<sup>th</sup> October 2014; the published outcomes of this research are available via the final SFF report, Gardner-Gee *et al.* 2014). This was accompanied by the planting of Tāhuri Whenua's 2014/2015 taewa crop at Massey University and the end of year hangi. The results of the research were highly anticipated by members of Tāhuri Whenua, AP confirmed that a spray-less regime adversely out

taewa and taewa seed at risk of psyllid infestation and Lso infection, however moderate applications of insecticides may provide growers reasonable assurance of healthy taewa yields and taewa seed.

**Figure 7.2 Translating the ‘psyllid known’ into taewa economy 2011-2014**



Chemical control agents (insecticide) are now part of this circulation, as are their absence. A mixed and intensive chemical management regime is an *option* for taewa growers, but the chemicals encounter resistance from calculations of cost effectiveness and kaupapa taewa that see them as culturally inappropriate. Not only are money and scale issues, but so too is a resistance to synthetic chemical based insecticides grounded in cultural protocols as well as health concerns. Māori growers worry about the mauri (vitality) of people and land. Some have adopted chemical management regimes, notably those who have gained access to chemicals by participating directly in scientific research. Others have attempted the use of mesh net crop covers to keep the psyllid away from taewa plants. Again costly, the management practice has been taken up by those with links to commercial growers or researchers. Other knowledge such as of how to identify psyllids, have helped all growers to become more vigilant in monitoring their crops, even if once they detect psyllids there is little they can do other than hope for some taewa.

One action that can be taken, however, is early planting. Not requiring the intervention of chemicals or external knowledge, NR suggests that number of growers have taken to ‘early planting to achieve harvest yields before the main infestation in mid-summer’ (Tāhuri Whenua AGM, 2011, 2012, 2013). Later planting subjects plants to later invasions, which can restrict tuber development. Varying planting times, however, has allowed growers to produce *some* taewa, but the practice can involve riskier climatic and biological relations (i.e. frost damage, drought, early and late blight). Growers in regions such as Taitokerau and Tamaki Makarau, which have more favourable climatic conditions (i.e. less frost risk), have found these strategies easier, but the psyllid is similarly better able to overwinter, while increased rain risk has caused early-blight. In less temperate regions, growers have planted taewa beside shelter belts, under awnings and may cover plants with peastraw to mitigate frost. Additionally, a number of growers have applied biological approaches, experimenting with companion planting and removing plants known to attract the psyllid (e.g. black nightshade and poroporo). Removing poroporo, however, involves giving up another food source. Growers also experiment with other methods and share any successes with other growers about how and what they have changed.

Growers are being encouraged by Tāhuri Whenua to invest in virus-free-taewa seed to avoid the regeneration of Lso infected taewa seed tubers. A virus-free-taewa seed (new-taewa) does not contain the viruses carried by old taewa (i.e. PVS, PVA, PVX and PVY), and it will most likely be Lso-free. While many growers consider old taewa to be pest resistant, it has been subject to psyllid devastation. Many growers have begun to grow new-taewa (Table 5.2 & Figure 5.3), with varying degrees of success. Makuini accessed state funding from TPK’s Whānau Ora initiative to purchase virus-free taewa seed, which she described as ‘beautiful’. The seed produced a ‘good’ harvest, despite almost certainly suffering a small psyllid infestation; which was not the experience of both the Uncles and Hanui who suffered significant losses due to a more serious infestation. Makuini’s relative success can be attributed to the regional location of her garden, further away from the main psyllid populations.

Other growers, Māori and Pākehā, have decided to stop growing taewa (and potatoes) for the time being, or at least to restrict production. Before the psyllid, taewa was a reasonably secure and low-intensive way to produce food and/or generate an income. Its arrival has led taewa growers to re-evaluate their commercial and cultural commitments to taewa and led many to reinvest their land and labour in growing other vegetables. They persevered for two or more seasons, but repeated crop failure has led them to identify other opportunities. Some have turned to kumara, even though it too is prone to psyllid invasion, albeit to a lesser extent. A number of growers have halted taewa production altogether until more is *known* about how to manage the psyllid.

The psyllid, then, presents a possible end to taewa economies. Some taewa growers persevere, are altering their practice in line with new knowledge generated out of situated Māori-psyllid research. They grow taewa within new power-geometries and relationalities among grower, scientists, state actor, plant and insect, which put into play a new set of ethics, values and practices.

A full chemical solution is unavailable financially, while rotating crops and relocating to less psyllid infested regions are not options in Māori economy, where land and finance are scarce. The project to rejuvenate taewa economy, from which commercial gains might arise as a positive outcome has become one of finding resources to keep taewa seed in reproduction. Growers are being forced to reconcile cultural prohibitions against chemical management and bio-engineering in their relations to taewa to keep the taewa taonga alive.

Psyllids force these various contradictions and dilemmas in the context of networked relations and financial and cultural values and constraints. As the Māori taewa economy contracts, the commercial gaps that growers saw as opportunities are being accessed by commercial vegetable growers planting and selling taewa at specialist and mass outlets. These new exchange relations threaten to crowd out Māori growers from any future, 'post-psyllid' markets. On the other hand, taewa are not the only vegetable to have cultural values and to generate lines of hope and possibility. The work of taewa in assembling aspiration, new knowledge affect and dispositions, new work practices in gardens, Tāhuri Whenua participation, science, commercial interests and so on may itself become assembled into the re-emergence of not only a post-psyllid taewa economy but other Māori vegetables in gardens and minds.

## **7.7. Potato psyllids: the non-human to economy**

Potato psyllids and Lso have devastated taewa and capitalist potato economies. All growers, consumers, and guardians of taewa have now encountered the psyllid and been affected by it. For capitalist growers in the NZ potato economy it has meant increased costs of insecticide use and lost export sales. While they can partially mitigate psyllid damage or shift out of potatoes and taewa into other crops, the same options of spraying and substitution are not open to small growers of those growing taewa for a mix of economic and cultural reasons. Māori growers have limited access to financial capital to mitigate psyllids and/or are wary of spray regimes and genetic manipulation for cultural and ethical reasons, yet have cultural commitment to growing taewa. They have lost a source of food for whānau, marae, and hapū, otherwise difficult to come-by income, and fighting to save a taonga. They face a difficult balancing act between the cultural values of the crop, Māori nature-culture understandings, an economic rationality that says taewa are loss-making, and finding money to invest in saving taewa by managing psyllids.

This of course is a human reading in which humans are lead actors. The psyllid's agency is admitted at the start of the account but is presented as inert, not fully recognised, and not traced through the account to represent its unmaking of taewa economy through its relations with taewa, Lso and humans. Psyllids have generated new articulations across numerous economies. Investment, knowledge, human actors and practices have been introduced into taewa economy, stuff that does new *work* and *reworks* and reassembles taewa economy and circulation in different ways (i.e. practices, collectives, ideas and values). The psyllid has reinscribed and intensified the marginality of taewa economies relative to others and the challenges faced by Māori growers. Part of the problem of such an account is that the shape of any post-psyllid taewa economy is not yet

apparent, and of course will, as we have seen, include the psyllid. The psyllid will continue to *rework* taewa economies – not only does the non-human matter and therefore ought not to be made silent or invisibilised in accounts of economy making, it refuses to be silenced.

This chapter has presented a situated account of this mattering in economy-making - in this case the disruption and unmaking socio-biological work of the psyllid. By following the psyllid and Lso and attending to the non-human, it highlights the socio-bio-material practices of taewa economies. The chapter has explored how taewa-psyllid relations have (re)assembled and enacted new actors, practices, values, exchanges and circulations in taewa economy. The account highlights the economy and market-(un)making *work* performed by non-humans in agricultural-food economies and demonstrates the co-constitutiveness of cultural-economic and bio-political trajectories. The psyllid has reassembled taewa (and capitalist potato) economies and demand we take the wild seriously. In what follows, I conclude this Chapter by discussing a set of key learnings from my journey with the psyllid that bring in a human-non-human relationality to my journeying with taewa through encounters with growers and Tāhuri Whenua.

### **7.7.1. The non-human: embedded, embodied and agentic in economy-making**

The potato plant sustains the psyllid and Lso. This biological materialism (and its biological politics) has devastated taewa production and reconfigured taewa economy. Growers are questioning their commitments to grow taewa in the context of psyllid agency, some have stopped or scaled back growing taewa, some now utilise agrichemicals, while others are waiting for conditions to become more favourable. The non-human is embroiled in relations among growers, taewa and economy making. The psyllid alters the mana of growers and their relations to their land. Together with Lso, it has caused a contraction in taewa circulation. Growers are having to learn to *think* with the psyllid when considering and growing taewa, to outsmart it by changing practices and making difficult decisions and concessions about their relation to taewa, as both taewa and psyllid change ontological form.

As actors in a bio-socio-technical agencement (e.g. psyllids-taewa-growers), the psyllid and Lso *make* things happen and must be present in accounts of economisation, whether these be of making economy and markets or unravelling them. They are intertwined in taewa circulation and exchange and active in rendering the particular form and shape of taewa economy. Psyllids and Lso are enacting new relations among state agencies, science, Māori growers, cultural values, commercial growers, Tāhuri Whenua, and in so-doing reassembling taewa economy (and potato economy). In relation with growers and taewa, they are forcing the incorporation of new material (insecticides, virus-free seed, companion plants etc.) and procedural elements (different crop management regimes) into taewa economy. They are absorbing significant state resources, altering balances of funding and influence in science organisations, and bringing about (and framing) new ethical and moral negotiations for Māori growers and communities. All these relations have stimulated new practices and values. The associated transitions are not freely made by growers, material elements require significant financial investment, and procedural elements mean altering

practices. The psyllid has an agency in shaping what is possible in taewa economy. If growers do nothing taewa may become extinct.

This agency, particularly its promotion of practices perceived as unethical, extends into exterior relations and other assemblages of cultural and political economy. It feeds into wider debates about indigenous knowledge and wider practices in the *Taniwha economy*, wider societal debates about organics and genetic modification, and the politics of science funding. Just as the psyllid has come to taewa economy through the potato economy, so too has it returned as new relationalities, knowledge from science experiments in the laboratory and the wild, and even new opportunities for potato growers to occupy Māori grower niches in taewa markets. Perhaps there will also be a new knowledge of how to economise potatoes in the presence of the psyllid. That is while capitalist potato economy has sought to largely tame, if not eradicate, the wild with agrichemicals, Māori growers practicing taewa economy are doing otherwise. They are experiencing a 'shared suffering' (Haraway 2008), out of which they hope to learn to live with the psyllid. They accept that the psyllid is here, potato plants (may) die and Māori may lose a cultural treasure, but are neither fully abandoning the taewa nor committing to an expensive, environmentally destructive and on-going war with it. In part this is a willful alternative response, and in part it is a response forced by financial necessity; but it has meant accepting that the psyllid and its destructive ways are here to stay and must be lived with in new relations. Māori growers do not yet know what all this finally means or what it will bring, but have been affected and are learning. Their experience and what comes next may inform other potato growers or other agri-food economies (i.e. kiwifruit) and conservation economies (i.e. kauri tree).

The experience highlights the questions of a bio-political relationality and the politics of a social-technical agencement. It invites us to bring together Law and Mol's (2008) idea of material politics and Bennett's (2010) conception of a non-human politics in a bio-sociotechnical approach to understanding how biological non-human actors are embedded, embodied and enactive of economisation. The arrival, biological performance and sociological work of the psyllid and the psyllid-Lso have enacted an *adjustment* and an *overflow* that have made taewa and their economisation something other. Both psyllid and taewa and psyllid-taewa are *being* more than commodities – they are living and dying, and in these actions *making* humans do things otherwise. Their biological agency in economisation and (market-making) forces a consideration of more than just devices and people in socio-technical regimes. If economy is always emergent, something made immediately apparent in agri-food economies where material elements are subject to, and composed of, natural and bio-physical as well as human processes, then psyllids, Lso and taewa are active in economy making politically as well as biologically and functionally. The psyllid-Lso-taewa relationship demonstrates a bio-political asymmetry between living (biological) elements, which is co-constitutive with human-human and human-non-human power relations in shaping the emergence, temporality and uncertainty of taewa economy. Non-human *work* is agentic and political.

### 7.7.2. A socio-biological politics: Mediating new articulations in the circulation and exchange of taewa

Industry, growers, scientists, state agencies, taewa (and potatoes), insects, bacteria, pathogens, plants, chemicals, cultural and economic values and much else besides have been assembled and reassembled in the fight against psyllids. That is, in Callon *et al.*'s (2009) terms a *hybrid research collective* of human and non-human actors has emerged to *know* and *manage* the psyllid (and Lso). New lines of investment have been struck and configurations of expertise forged, and have circulated through various nodes of articulation among taewa, science, and capitalist potato economies. The psyllid has generated new articulations among taewa, science and capitalist economies.

In its assembling work, the psyllid has mobilised new (and old) politics to do with the future of taewa and exerted a political agency that has imposed a temporality and uncertainty on doing taewa economy. Nowhere is this clearer than in respect of the ontological politics of the taewa, where the psyllid has forced a confrontation with *what the taewa is or might be* as it travels around new circulations across the articulations of science-commercial-Māori economies, initiating a raft of consequential cultural and economic politics. While on the one hand, the comings together initiated by the psyllid have been interpreted positively as having 'made us collaborate in a way that has not been seen previously' (Terry Olsen, PNZ Chairman 2011), Māori growers are wary of what 'cracking the taewa's genetics', lodging seed at the International Potato Centre seedbank or plotting a chemical solution for production at scale might mean. Yet, engaging with the psyllid alongside commercial growers, scientists and state agencies to *know* and *manage* the psyllid and Lso has deepened the knowledge of Māori growers, built productive relations, and fostered shared matters of concern and learning to be affected that promise to be generative, even if the politics of 'on whose terms' must be continuously renegotiated. That is, being *in* the hybrid collective does not necessarily mean a *shared* knowing, learning or experience of the psyllid.

While situated knowledge is of place and made in place, codified or otherwise mobile knowledge and the propositions derived from it do not travel freely across articulations among science, taewa, and capitalist economies or stick in the same way in those economies. They require mediation and translation, processes that are embodied and emplaced, and in which bodies and places also matter. Knowledge-based and other emergences from these articulations have been *worked out* and *worked into* taewa economy by agents, notably by Tāhuri Whenua. As translator, meaning maker and networker, Tāhuri Whenua has drawn into relation around the psyllid-taewa-Lso relation PNZ, PFR, various universities, corporate potato growers, seed merchants, agri-chemical suppliers, international scientists, Māori growers and state agents, and re-situates taewa and psyllid knowledge in attempt to foster the co-production of knowledge and intensify and mediate interactions. Embodied in the forms of Aleise and Nick, it has done this purposefully to sustain taewa values, support Māori growers and mediate emergent articulations among actors and economies. Multiple hui, the website, the experiments in labs and the wild, the virus-free taewa

seed, and the Tāhuri Whenua seed-bank are all material manifestations of this mediating work. While science, investment, virus-free seeds have circulated into taewa economy, stuff has also circulated from Māori worlds (i.e. taewa and its genetics and Māori approaches to management) into capitalist and scientific economies.

This mediation work carries significant expectation. Māori have exchanged their old taewa cultivars, whose value is invaluable, for the hope of sustaining their taonga for future generations. Making themselves subject to science and subjects of science, has raised expectations that the science generated will be accessible and useful in context (ie growing taewa more successfully in Māori gardens). These mediations and exchanges take place quite literally on culturally situated grounds (i.e. marae), where expectations are connected to Māori political worlds as well as a hopeful taewa future. Embodied and politically framed experiences of having other crops (i.e. kumara) and traditional knowledge (i.e. rongoa Māori) co-opted (or 'stolen'), has raised concerns about who 'owns' taewa and where taewa end up, both in terms of future access and uncertain becomings. One obvious and more than reasonable fear is that taewa seed will be used to underpin an industrialisation of the taewa that is culturally insensitive and forecloses upon the prospects of a future garden-based economisation of taewa.

Latour (2005) and Callon and colleagues (2009) only go so far in thinking through the politics of these kinds of articulation, directing insufficient attention to the positionality of the *agencements* they consider. Taewa economies are situated differently to the capitalist potato economy and in relation to scale of production, access to investment, production practices, management values, expertise and knowledge. Questions of who does the research, what is researched, and what values it might produce are situated in a politics that infuses and transfigures the research collective. All knowing is translated, negotiated and reconfigured in relation to this politics, which has high stakes for the taewa economy. If Tāhuri Whenua had been absent, taewa economies may not have received anything – agency matters, and my narrative is contingent as its content contingent.

### **7.7.3. Situated, collective experimentation and learning to be affected in (re)making taewa economy**

While the nature of these encounters may be different and experienced differently in relation to different aspirations and values, the psyllid has at some level produced shared matters of concern for otherwise differently situated taewa and NZ potato economies. Taewa economy is moral economy. So, when the work of the psyllid calls for growers to experiment in taewa economy, this call is for new forms of collective and situated experimentation. The taewa-psyllid experiment considered in section 7.5.2 is situated firmly in places, embodied forms and a politics that emphasises Māori concerns. It is a kaupapa Māori experiment - for Māori, premised on Māori values and aspirations, employing Māori practices, placed in wilds mimicking Māori taewa gardens, and assuming its objects and subjects (psyllid, taewa and growers) to be part of a taewa economy. While attempting to mobilise the virtues of positivist science, the experiment departs from those in

which industry commonly invest in key underlying assumptions, as well as the level of capital investment and the sites of research. The politics of science is explicit, and provides grounds upon which Māori growers have become invested in the experiments. The aim is to enact a hopeful trajectory for taewa that are produced by Māori in Māori fields. A renewed taewa economy is about *knowing* and *learning* how to live with psyllid in the new wild.

The psyllid, then, has changed things, issuing new imperatives, shifting relationalities, mediating the renegotiation of values and unsettling taewa economy to change how taewa growers *think* and *do*. It has repositioned taewa in human, non-human and human-non-human relations and their politics, and remains unpredictably active in the *knowing* and *doing* of emergent taewa economies and their spatialities and temporalities. Different nodes of taewa circulation have emerged at newly fashioned sites and moments of articulation among Māori, science, and capitalist economies through endeavours to know and intervene in the relations between the psyllid and the taewa, their relations with others, and even their very beings. Likewise taewa have been articulated into new lines of investment. Taewa and taewa grower have limited agency in rendering the psyllid tame, and for many Māori attempting to tame the wild is inappropriate if not a fool's errand. Psyllids have caused taewa growers to question their relationality to the taewa and the natural world and to explore the bio-sociality of economisation.



## Chapter 8: Māori potato economies: knowing and doing economy

### 8.1. Introduction

Taewa economy and the bio-socio-technical collectives through which its actualised forms are practiced into being defy reduction to pre-given logics of demand and supply, rational economic action, and neutral market clearing houses. Rather, taewa economy emerges through embodied and embedded calculations of qualities and worth. The *economisation*, however, involves actors who work with and within a situated, shifting and relational agency, which those with a will to shape it must learn to comprehend. The accounts of my encounters and journeys with taewa through these fields of human-nonhuman networks from Tāhuri Whenua to Aunty's Garden and the post-human worlds of the psyllid confirm that actualised taewa economies are co-constituted by (and constitutive of) diverse actors, meanings, practices and values. Their emergence takes diverse *lines of flight* and they then become assembled into multiple and diverse forms rather than a series of linear relations mediated somehow through/by disembedded market exchanges. These lines of flight offer examples of different ways of seeing and being in economy that highlight potentialities in these lines of flight, for: better understanding economy; identifying and celebrating diverse economies; practising economy anew (even taking back economy); plotting new generative lines of engagement for economic geographers; and resourcing Māori with conceptual tools and new research relations that might facilitate inventive, diverse and vital Māori economies. In what follows, I consider the extent to which the project has made contributions in this regard by weaving together my encounters and journeys and situating them back into trajectories and debates in economic geography, Māori development, and rethinking economy.

The conclusion is presented in six parts. It begins with an empirical overview that weaves together the three moments/assemblings/fields of taewa economy (Aunty's Garden, the psyllid and Tāhuri Whenua) and makes a case for how taewa economy is made and remade through relational experimentation, collective calculation, and situated assembling around uncertain and shifting boundaries. The five sections that follow tease out particular dimensions of this argument from the three stories of economy making, each of which highlights a different contribution to the economic geography literature.

### 8.2. Making taewa economy: institutions, experimentation, and human-non-human relations.

Each of my three journeys emphasises different moments, sites, actors, and relational enactments of taewa economy and a different opportunity to know and enact economy-making. The Tāhuri Whenua account highlights the role of institutions in building and proliferating a Māori economy that articulates capitalist and non-capitalist elements. The Aunty's Garden account also draws attention to institutions, but highlights the experimentation of gardeners and other actors in

economy making. The potato psyllid is a disruptive actor and demonstrates how biological actors are always at work in the making of economies, by altering boundaries and trajectories and re-setting power relations. Table 8.1 brings the three stories into relation. It summarises the work of the different stories, as well as the relational agency brought into being around the central actors in each account: Tāhuri Whenua, the Aunties, and the psyllids. The Table points towards a set of shared trajectories set in motion by the interplay of the encounters between actors and relations among them. It is from the assemblage of these interrelations and the trajectories that they unleash we can begin to see the shape of an open and emergent taewa economy, in which three processes of economy making are writ large: situatedness, collective experimentation, and assembling partial knowledge.

**Table 8.1 Bringing *apart-together*: Tāhuri Whenua, Aunty’s Garden and Potato Psyllids in shared trajectories of economy-making.**

<b>Cutting into economy: Stories of Taewa economy for knowing economy</b>	<b>Situated lessons for economy making</b>	<b>Shared trajectories of economy-making</b>
Cut 1. Tāhuri Whenua: institutions in economy-making	Situated knowledge production, exchange and circulation; negotiated articulation of values; translation of objects/actors to expand circulation.	Economies are not bordered, always emergent, in circulation, contested.  New actors and relationships are generative (circulations, possibilities, negotiations) and always situated, translated, multiple, negotiated and contested.
Cut 2. Aunty’s Garden: experimentation in articulating diverse Māori economies	Relating economic imaginaries (entrepreneurialism and kaupapa Māori); project building; socio-technical devices generating new articulations, getting stuff moving.	Human- non-Human biological relations make stuff happen, economy is entangled in vital materialities, collective experimentation must take place with biological actors.
Cut 3. Potato Psyllids: non-human and human relationships in reassembling economy	Human-non-human relations are situated, establish shared matters of concern, economy must respond to learning to be affected.	

### **8.2.1. Situated economy-making: diverse actors, vital materialities, complex relationality and matters of concern**

The three taewa economy narratives show taewa and economy-making as situated in relations among socio-cultural, political-economic and bio-physical worlds. The taewa and these worlds are co-constitutive: they are not independent. Taewa are mobilised as an object of (and in) cultural and

political projects. Growers and organisations inscribe particular meanings and values in taewa, which are then put into motion with taewa. Taewa *travel* as political, economic, and cultural objects. In their encounters from ground to marae, market, and table (or back to ground), they forge an economy that is always cultural and political. The taewa is inscribed with meanings and values and in turn inscribes particular meanings and values in its exchanges and through its relational agency. Taewa shape their actors (growers, market mediators, and consumers) and reinforce cultural identity.

Taewa economy is situated firmly in a particular moment of opportunity constituted by trajectories of Māori economy, contemporary institutional configurations, biological economy relations, and individual and collective experimentations in production and market making in place. Its defining encounters, practices, relations and moments and sites of exchange are particular not just to the object but also to the meanings and qualifying technologies that shape its values. The object is storied by situated stories and those stories are made and received by diverse actors in situated contexts. The market-making experiments of Tāhuri Whenua and Aunty's Garden (with scientific measures, gene technologies and web-site designs to transcend the local), make these stories travel, hold meaning and gain new meaning in wider encounters. These forge an expansionary economy. At the heart of taewa economy lie matters of concern to do with Māori economy, place and actors in economy and place; concerns such as the utilisation of Māori land, the retention of traditional Māori knowledge and practices, the maintenance of Māori vegetable lines, and the mobilisation of Māori youth in Māori horticulture.

Tāhuri Whenua has adopted, adapted and performed into being an institutionalised role to address these matters of concern guided by a kaupapa that articulates Māori economy, Māori socio-political aspiration, and state interest. This kaupapa sees it engaged in ways that transcend conceptions of economic development or agricultural development agency. Its work and the actors who perform it are embodied just as taewa economy is an embodiment of them and their work as well as the Aunties and other actors. Taewa economy is an assemblage of Aunty's Garden and Aunties with all their aspirations, historical and contemporary. Whilst the market-making project failed in the eyes of some, for many Māori it led to trying and doing new things with Māori products and on Māori land. Taewa is an emergent assemblage of the economy-making practices and relations of this aspiration and knowledge.

Potato psyllids disrupt all of this and point to the temporality of economy and its reconstitution across numerous trajectories. They have insinuated their way into the heart of this taewa economy and demand that growers either stop growing or alter their cultivation practices, which can force some into complex reconciliations with cultural practices. In remapping productive sites through their presence or absence, altering the practices of farmers, rendering seed usable or unusable, connecting the taewa to the lives and practices of other potatoes and tomatoes and their farmers, they have come to reshape the possibilities of taewa economy. Their presence or absence fractures spaces of production and distribution. Their biological rhythms are at work in shaping the trajectories, requalifying, and (re)directing taewa economy, both by acting directly on taewa and

their biology, and in co-constitutive agentic relations with other taewa economy actors. Fewer Māori are now growing taewa due to the costs associated with its presence, whether it be the necessary investment required to manage psyllid with insecticide or the risk that the crop may not produce tubers. Research and regulatory resources have been directed to understanding the psyllid, and its relationship with taewa and taewa cultivation practices. As a shared matter of concern the psyllid draws the taewa economy closer to conventional potato economies. It is this shared matter of concern that has constituted new and shared investment in relation to crop and pest management research and development (i.e. Sustainable Farm Fund grants, Potatoes New Zealand, Scientists). This research programme and the gathering of data and dissemination of results has assembled Tāhuri Whenua (in particular Nick Roskrige and Aleise Puketapu) into taewa economy in new ways.

### **8.2.2. Collective experimentation in economy-making: plotting new directions with familiar actors, moments, struggles and relationships**

Both Aunty's Garden and Tāhuri Whenua are forms of collective experimentation as Callon and The Community Economies Collective would understand it. They are themselves experiments, they foster and launch experiments in economy-making, and they shape an experimental economy. Tāhuri Whenua is an experimental development agency. It promotes economic activity, but according to its own kaupapa. These include much closer generative interactions with economic actors: from sitting in hui and connecting through whakapapa, a deeply embodied and emplaced form of agricultural extension, to working with farmers in fields, moving taewa around the country, and co-producing with farmers multiple matters of concern such as the taewa production and crop management, the quality of taewa seed, and the utilisation of Māori land – or more precisely *keeping Māori land and Māori vegetables alive*. Each of these moments, encounters and relations are performed, uncertain, generative, and emergent. This is not how such relations might be understood in 'Business Studies Networking 101'. While Tāhuri Whenua has a clear agenda to smooth the articulation of Taewa economy and the State by inserting itself into particular circulations, particularly those among state investment and Māori development aspirations, it is not only actor but also relation, platform and unprojected emergence. It is a site for making efficient such circulations, in terms of a situated purpose and form of accountability that ensures Māori learn and produce something from state investment. Its kaupapa and practices are familiar, yet also novel.

Aunty's Garden has similarly been a collective experiment, but not one supported by secure institutions and on-going state funding. It faced significant challenges in articulating diverse, state and capitalist economy. These challenges echo Mitchell's (2007) account of failed attempts to fit the world into particular economic imaginaries in the face of the lived practices and values of marginal dwellers who live different economic realities and cannot or will be homo economicus and reduce their lives to 'unlocking' their 'economic potential' (for another example, see Ouma *et al.* 2013). In the case of Aunty's Garden, the state and economists failed to understand the situatedness of the particular contexts where they sought to roll-out economic projects. The 'inside'

and 'outside' (of) and 'economy' were framed within narrow economic imaginaries and projected onto worlds in order to recreate them. For Aunty's Garden, the State and economists considered exchange to be 'market exchange' and growers to be 'capitalist entrepreneurs', whereas exchange and growing had different meanings and values for Māori. Like Mitchell (2007, 2008) and Ouma *et al.* (2013), Aunty's Garden demonstrated a tension between projected worlds (from somewhere – the outside) and cultural economic worlds (the here – the inside), they assumed articulation to the outside would happen on terms set by the inside. Aunty's Garden drew on certain practices and relations that were projected onto them from the outside, and then sought to reconcile differences and construct new opportunities for Māori growers. The aunties and KAHC sought to balance Māori diverse economies and capitalist economies rather than seeing a particular world traded-off. This enacted multiple outcomes: a success for growers, they could continue their practices; and a failure for the State and Asset Holding Company, it did not lead to commercialisation.

The situated experience of Aunty's Garden and the tensions between outside and inside practices that undermined the experiment is made particularly visible by the counterfactual of the Poutama Trust project. Supported by the Māori Economic Taskforce, under many of the same principles of Aunty's Gardens 'to create market opportunities for Māori', Poutama is narrated as a 'successful' experiment. However, the inside-outside relations were different, and the articulation of Māori and capitalist economies premised on different kaupapa; those that involve capitalist economy-making by Māori rather than Māori economy making. The members of the Poutama Trust project were already profit generating enterprises with ambitions to upscale their business and look toward international markets (i.e. China). The experiment fitted Māori economy into predetermined projects, with pre-prescribed values and ideas. Viewed as a successful experiment in economisation, Poutama is economy making and has created effects and affect of economisation. It has enclosed, narrated and fostered extant projects of *tangata-economicus 2.0*<sup>51</sup> - projects that fitted its established mandate (Māori brand, value added goods, export ready). This is not to diminish the value of Poutama Trust's achievements, but to recognise that accounts of its success are rendered in the terms of a mandate that is and ought to be seen as different to the kaupapa of Aunty's Garden. More importantly for Aunty's Garden, success or otherwise looks different.

Rendering accounts of Aunty's Gardens must attend to notions of affect and recognise predetermination of notions of success or failure in the performativity of economics as a language and practice. Indeed, it is important to recognise not only that the effects cited as success may not have been generated by the experiment or even prove positive in the longer term. I have sought assiduously to avoid making outsider comments on affect or drawing judgements in that regard. The comparison with Poutama Trust points to the importance of keeping open the possibility of multiple other experiments that may shift worlds and make economies that do not fit conventional

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<sup>51</sup> People are not born psychologically endowed like the *homo economicus* of neoclassical economics (i.e. endowed with values and skills to operate (capitalise). Rather, even if 'he' is a desired subject, 'for markets to exist, homo economicus has to be created, formatted, framed and equipped with prosthesis which help him in his calculations and which are, for the most part, produced by economics' (Callon 1998b: 51).

accounting. That is, the Poutama Trust experiment has been, as Mitchell observes of De Soto's experiment in assigning property rights to Peruvian slum dwellers, one of fashioning an economy that fits into established economic models and produces the empirical fact of its creation as an applied experiment as a demonstration of its success. Aunty's Garden was a more open experiment with possibilities, and one that has at the very least remained open, fostered other experiments, kept possibilities alive, and generated positive affect.

### **8.2.3. Interpreting economy-making: assembling learnings and knowing taewa economies**

As an 'economy in the making', taewa economy is an emerging assemblage of multiple actors (including institutional actors and the non-human), their experimental ventures and mundane practices (shared and diverse), their relations, and the circulation and exchange of objects (taewa and others). Growers are, of course, pivotal actors, whether acting as independent growers, as part of Aunty's Garden or other collectives, or as part of Tāhuri Whenua. Each, in different ways, participates in taewa economy in relation to each other, through hapū relations, marae centred practices, and taewa kaupapa. Each acts also in relation to state investment (whether it be through research investment, state investment in garden ventures through various funding agencies and arrangements, welfare support or (in Makuini's case) Whānau Ora). Each also acts in relation to Iwi asset holding companies and more or less market actors (District Health Boards, schools, charitable organisations, and so on). These all influence taewa economies by providing capital to fund research and/or production and market development initiatives on a more or less investment basis.

The latter point is important. Not everything is about market exchange in economy. Taewa economy is far from fully capitalist and not all about markets. I went into this research thinking and looking for taewa markets, but became increasingly sensitised to taewa economy as 'in-the-making' and came to recognise that economy is *done* not *is*. Where taewa is grown for commercial distribution, grower, taewa, distributor, seller and consumer are situated in similar worlds, but these cannot be divorced from the meanings and associated qualities that come with taewa from Māori worlds. These introduce inescapable moral and political questions. If growers are Māori, they face negotiating cultural customs around the exchange of food. Certain growers will grow two crops one for whānau and marae and one for commercial exchange, articulating two connected but different worlds in this way. Others will grow only for cultural exchange. Non-Māori growers are always connected to Māori worlds by the naming and ensuing storying of their product as Māori (Māori potatoes). Economic objects must always be qualified, and the taewa comes with stories and other qualifications that enhance its exchange value, and give it a price higher than the Rua, Nadine and Jersey Benny beside which it sits.

Māori are doing economy in their own way. Taewa take on meanings and values as they move, circulate and come into contact with different actors. A Taewa economy is a moral economy, as Sayer would understand it. That is, taewa economy 'embodies norms and sentiments regarding the responsibilities and rights of individuals and institutions with respect to each other. These

norms and sentiments go beyond matters of justice and equality to conceptions of the good' (Sayer 2000: 79). Taewa move through relational and oppositional worlds. They secure and cement relations and fashion new value generating relations: but are never completely exclusive of the other. For the grower the taewa is a cultural as well as an economic object, with the two not held in any stable relationship. For Tāhuri Whenua it is an object that links culture and economy in a way that will underpin a widely based project of Māori agricultural development. For Iwi Trust Boards, it is similarly an object of development for a similar project, this time for iwi in place. For District Health Boards it is an object that promises to advance a whānau ora – a healthy, culturally enriching and economically promising food. For the chef at a high-end restaurant it is a unique food with a value adding provenance, which will enhance dining experiences in many different ways. For the psyllid the taewa is an edible necessity of life, while for growers the psyllid in relation to the taewa is a disruptive biological challenge.

### **8.3. Coming to know taewa: Project-less journeying, encounters in wilds, and learning to be affected.**

#### **8.3.1. Journey and putting myself into motion and economic relations**

In coming to know taewa, I have put myself (body and mind) into circulation with the objects, subjects and subject-objects of taewa economy. The approach has opened up the situatedness of taewa economy, its open-endedness, and its emergent properties, and has allowed me to conduct research in the moment and 'in the wild', as Callon (2007a) suggests. The approach is ethnographic but not ethnography as a long term immersion in a particular place, time and set of relations. Rather it is more closely akin to the multi-sited ethnography of Marcus (1995). For economic geographers, the approach taken is novel. It has offered me an opportunity to strengthen the ethnographic dimensions of 'following' as a methodology adapted by Cook and others from Appadurai, and to explore more deeply situatedness and assembling at the core of the making of economy.

Consistent with Callon, PSPE and other Latourian readings of economies, this particular form of journeying also brings into sharp relief the relationalities at the core of economy and their political, cultural and economic co-constitution. It is through this approach of putting myself into circulation that I have been able to recognise asymmetries of market constitution and 'possibilities'. The possibilities of Aunty's Garden do not reduce to measures of market throughputs or demonstrations of a functioning apparatus of market exchange. By putting myself in motion I could *know by doing* socio-technical agencements (Le Heron and Lewis 2011). I became incorporated into and a co-enactor of overflows. Quite literally journeying with the psyllid as well as encountering it at multiple locations and in multiple relations presented unique opportunities to recognise active and emergent non-human framings of social lives. As Latimer and Miele (2013), Enticott (2014), Head *et al.* (2014) and Bear (2015) emphasise, human-non-human relations can be an almost infinitely recursive co-framing. Likewise, the approach continuously and quite literally opened up

new avenues for investigation, including on-going and always shifting reconstitutive relations among Tāhuri Whenua, Aunty's Garden, and the Potato psyllid. Indeed, as researcher and body I became not only part of these relations, but constitutive of them just as my research was constituted by them.

By following my own journey, I became active mediator, translator and mover of objects and relationships. Unlike participant action research which normally attends to the movement of ideas (and sometimes objects), I mediated relationships among humans and between biological non-human actants. By being a courier and exchanger of taewa, I became an active, if not always conscious agent of human-biological relations. I entered the taewa economy about the same time the psyllid appeared. In numerous journeys I would collect and pass taewa from one place to another. It is quite possible I became a vector for both the psyllid and Lso in this economy. I probably inadvertently moved diseased seed from place to place. This is a sobering thought, which calls into question the ethics of engagement, and raises issues that are more familiar to medical, biotech and horticultural research. As a guest of Māori communities, my practice was to move and gift taewa as both a courtesy and an act that placed me firmly within the circulations that define taewa economy. Gifting food is a defining practice of Māori economy and my practice allowed me to recognise and experience this economy and to research in its wilds. However, it may also have spread disease. There is much to learn from the experience for biological economy research or research in the wild that either consciously or inadvertently engages with the non-human.

The form of ethnography I employed offers geographers studying economisation an approach that frees economisation to be seen and within all its messiness and uncertainty. This opens economy up to be emergent and to take unknown journeys with it that disturb and escape established theoretical categories. It extends also to economic geographers, in particular those interested in the circulation of expertise and policy, as moving with opens up objects to be seen as co-constituted from beyond *central* nodes. By moving and doing economy across wild and unexpected diverse landscapes it registers a new form of enactive and affective co-learning that can capture the diverse actors, relationships and objects co-constitutive of research subjects.

### **8.3.2. Project-less journeying and researching in the post-colonial wilds**

Perhaps the defining feature of this research has been its project-less nature. It has been a journey in the *wilds*, a journey in which I allowed myself to be guided by others. The journey began with two previous forays into Māori economy (FitzHerbert 2008; 2009), again largely led by participants (see FitzHerbert & Lewis 2010). This *journeying with* participants reworks the geometries of power relating researcher, participants and research objects. If anything, *it positioned me* as I was invited to see certain relations and practices – a subtly different take on the enduring insider-outsider and stranger-friend relations of more or less embedded research. I was asked to take certain things (taewa, messages, information, artifacts) with me on my research journey, to do certain things, and to go to particular places, as well as given opportunities to question what I was doing and what I encountered, and to ask what I could or could not take away with me and where I might go next. I

was invited into different field spaces, to ask different questions and to observe the formation of economy through different categories. The approach enabled me to escape an *a priori* project and dominant categories, and allowed me to adopt categories as I recognised them emerging in the field. In a journey framed broadly as an exploration of knowing economy differently, the approach was a generative one.

Eschewing my own project of knowledge production, I became part of political projects other than my own; indeed I was enrolled in the project of developing the taewa economy that I had set out to follow. In this way, my research was enactive, but enactive of a project to which I had been enlisted rather than one I had brought with me. I had effectively redistributed power to the field, the research was situated by and in the field. The field constituted a large part of what became possible to research, the research journey(s) and how research was conducted. It also positioned me in a unique position to engage real-time with an economy in the making, indeed as an active in its making. This is very much Callon's advocacy for researching in the wild, although from the perspective of intellectual and personal safety if not from that of discomfiting moments of discovery, I was a long way from the wilds.

The process of journeying situated by others and inviting others to situate the research is arguably a step further than inviting respective research participants to co-frame the questions in a more conventionally projected action research programme (see for example Kindon *et al.* 2007). The approach generated a project that emerged from field encounters with actors, objects and their relations, and from my own progressive learning to be affected. The approach of projectless journeying was distilled from my earlier research engagements with Māori economy and its communities, and forged around long-term relationships, a praxis of respect, and demonstrated commitments. Significantly, however, it was never agency-less – I was never instructed and did not allow myself to be instructed; rather my enrolment in circulations and projects was relational, negotiated and open-ended – but not in the familiar terms of 'contract'. The experience demonstrates a different approach to both post-colonial and engaged research and invites other geographers to consider engaging in research projects constituted in emergent relations with others to pursue emergent questions and interests. This may require geographers to shed some institutional baggage (such as ethics, theoretical categories, methodologies worked out elsewhere) and to build ethics by journeying with others and learning to be affected.

The project-less experience proved rewarding. People are interested in what I am doing, they invited me to places and opened doors to spaces not normally open to an outsider. I could see and become involved in moments that I otherwise may not have been offered. It was never *just* an interview, participant action research and/or participant observation, I was *being* and *doing* in the world of others, as much as is possible as an outsider. This deepened my relations and engagement with each particular story and produced a deeper and informed reading of how a taewa economy is an *economy in the making*. It shares similarities with ethnography. The approach led to the co-production of situated knowledge for situated economic aspirations and concerns. My approach, and the approach of others to mobilise me, demonstrated a commitment to offering oneself up to

others' worlds, and this seems to make difference. Informants valued this different form of practice - I was invited *in* and still there.

In the post-colonial setting of Aotearoa New Zealand, the approach was particularly rewarding, intellectually and politically. A pākehā at large in a Māori economy, I was positioned by key actors and taewa growers in relation to their activities, knowledge and taonga (Taewa Māori). The approach disrupted insider-outsider and researcher-participant power relations. Projectless, thus positioned my journeying offered one answer to how a pākehā might engage in meaningful research encounters with Māori in settings where Kaupapa Māori research protocols question any place for pākehā. That is, credibility and meaning can be derived when the research encounter occurs in some different field of power relations based on deep relationships of reciprocal commitment, respect and trust, it lacks credibility and meaning. In this way, outsiders may have a place in generating knowledge of Māori worlds.

This approach is founded firmly on a practice-centred analysis as opposed to one than a critical exploration of subject formation or core cultural domains. Whilst recognising then that economy is cultural and economic subjects are at the same time cultural subjects, a sensitivity to kaupapa Māori research puts them beyond any fundamental critique. This of course risks co-option and the perils of cultural relativism. Here I draw on the work of FitzHerbert and Lewis (2010) and Underhill-Sem and Lewis (2008) to argue for the integrity of an expert gaze validated by affective and affected connectedness, a commitment that comes from long-term engagement, and a project-less commitment. This presents lessons for the practice of a new generation of participant action research.

Nonetheless, while *doing* the project differently, my journeys with taewa and Māori would sometimes collide with ethical and political checkpoints. The commitments and sensitivities that made research possible had to be continually renegotiated, especially with regard to the sharing of stories situated within Mātauranga Māori and te ao Māori more broadly. A number of the actors shared culturally situated knowing of taewa cultivation and exchange. While the sharing of such knowledge across indigenous-western knowledge boundaries is a vexed issue (Coombes *et al.* 2013) and invokes memories of practices of colonial dispossession, participants in this research often requested that I share their stories with other Māori on my journeys. However, while the stories were shared either at hui and/or directly with Māori, they are not included in this dissertation. Those that are shared here are not subjected to ideological critique drawn from external epistemology, but to a reflection that seeks to reconcile commitments to both Māori worlds and critical research. Whilst being an outsider and operating largely on the surface there are numerous occasions whereby I was invited into deeper knowledge spaces and experiences (i.e. hui, marae, conversations with elders, gardens, think tanks). Thinking and narrating these experiences has challenged me continuously to disentangle responsibility for the worlds from which this knowledge emerged and from that of critical reflection, once again demonstrating the dilemmas of being not only both stranger and critical friend understood so well by anthropologists, but also obligated and respectful guest.

### 8.3.3. Reflexivity, double learning, and learning to be affected

Putting oneself into motion imposes a continuously reflexive stance around the double learning that is almost disciplinary (even discipline defining): reflecting on the journey became a sort of reflection of how economy is made. Economy-making both emerges from bodies and ideas in motion, and puts them in motion. Taewa economy opened up as I moved. There is something deeper here than the reflection that because things are in motion in the making of economy, it is necessary for the researcher to be in motion too; although that is a reflection rarely made by economic geographers. In addition to reinforcing an advocacy for researching in the wild, these deeper reflections provide a platform for learning to be affected, in effect by being in motion with affect; and theorising away from experiences forged by journeying. For example, *learning to be affected* by moving, feeling and doing economy (with others), and, *theorising away by following myself in relation to multiple subject-objects sharpens* the capability of geographers to recognise the micro spatialities of economies such as the taewa.

Geographers have a traditional commitment to place and situated knowledge production. They are well positioned to challenge the formative relations of social institutions and invigorate place-based situated research projects. A form of ethnography that geographers are positioned and able to do – goes beyond conventional tools of participant observation, interviews, and/or focus groups (each of which do little to unsettle power). Projectless journeying offers new potential for producing situated geographical accounts of economy-making and learning about the world from recognising co-constitutive performance in world-making.

### 8.4. Taewa economies: articulations and lines of flight

The taewa economy project can be thought of as an expansionary network. It has drawn in new actors and built new relationships to other networks. After ten years the taewa economy continues to be emergent: new people are entering the fold, new research projects have been established, new projects are capturing investment, new people are growing taewa, and new research objects have formed. As such the taewa offers Māori a Māori economic object and associated heterogeneous relations that can pull together and draw out shared interest (knowledge, history, skills, practices, values, and customs). If this is the taewa economy project into which I was assembled, what can be said in conclusion about the economy that it has been instrumental in stabilising?

The assembling of taewa economy from mundane interactions among actors, practices, relations, objects, exchanges, circulations and so on is performed in relation to, and in turn shapes, relations with external economies, projects and trajectories. Actualised taewa economies are distinctive assemblages of economic diversity, but neither independent from other economies nor forged in isolation from them. They are assembled in relation to various external projects mobilised by actors, just as their actors are also configured by relations ‘without’ as well as within them. Indeed, Aunty’s Garden is an amalgam of relations with capitalist actors, technologies and practices

as well as actors and resources embedded in non-capitalist economic relations and diverse economy impulses and organisational architecture. This is far from inadvertent, and as it has sought to woo and insert itself into capitalist circuits of exchange, AG has drawn on its kaupapa Māori and diverse economy practices to attach qualities to taewa that can be exchanged in other circuits; that is to economise taewa circuits in unfamiliar ways. Opened up to other actors, the wider taewa economy is then an assemblage of elements from capitalist and diverse economies, and one that is strategically constituted and performed.

Figure 8.2 (re)presents Gibson-Graham’s notion of a diverse economy illustrating how taewa economy articulates with other economic relations. This represents other sets of possible economic relations – not just capitalist, but does not exclude capitalist relations either – which broadens the horizon of what comprises the economy in terms of *transactions, labour* and *enterprise*. As such, for the taewa economy, capitalism is just one (possible) set of economic relations and practices scattered across a broader conception of economy. *However, the taewa economy mobilises articulation with capitalist relations in order to inject new things into the taewa economy (i.e. investment, people, projects, potatoes)*. Whilst, these relations (articulations), and the inherent power, cannot be essentialised, the taewa economy (and its actors) demonstrate agency, drawing capitalist relations into taewa economy and translating them into value for economy-making for Māori.

**Table 8.2 A diverse economy re-articulated (source Gibson-Graham 2006: 71).**

TRANSACTIONS	LABOUR	ENTERPRISE
<b>MARKET</b> <i>Aunty’s Garden, Supermarkets, Farmers markets</i>	<b>WAGE</b> Scientists, AG Promoters and Marketers, Consultants,	<b>CAPITALIST</b> Seed producer companies, Asset holding companies
<b>ALTERNATIVE MARKET</b> Gate sales, Tāhuri Whenua meetings	<b>ALTERNATIVE PAID</b> Taewa economy examples: students, scientists,	<b>ALTERNATIVE CAPITALIST</b> Taewa economy examples: Charitable organisations, Māori Economic Taskforce
<b>NONMARKET</b> Hui, koha	<b>UNPAID</b> Gardening, executive members, advice, knowledge	<b>NONCAPITALIST</b> Whānau, marae

Whilst Gibson-Graham underplay the entanglement of diverse economies with capitalist practices to emphasise marginalised practices, their approach can be deployed to focus on the articulations of economic and non-economic practice (Lewis *et al.* 2009), and, as illustrated in the above table whereby taewa economies are constituted by relationships between non-capitalist and capitalist elements. Likewise, by wrapping economisation and diverse economies together, it opens diverse

economies as unbounded, in circulation and constituted by articulation with and across other economies, and opens economisation up to other more-than-economic articulations.

Tāhuri Whenua is involved actively in assembling this taewa economy by enthusing participants and communicating codified scientific and marketing scientific knowledge, whilst also placing into circulation various tacit, situated local knowledges of growing taewa. It is also instrumental in mediating an articulation between the taewa economy and the Taniwha economy, and carries out much of its mediation between capitalist and local, diverse economies in terms of this articulation. There at least five key sites and moments of articulation here: the funding of Tāhuri Whenua and the setting of its priorities and project development; securing access to mainstream markets for diverse economy initiatives; providing scientific and other advice to producers producing simultaneously for both diverse and capitalist economies; the work of individuals who perform in different economies, either in formal roles or more commonly through multiple commitments; and the work of identifying, making visible, bounding and policyming the Taniwha economy (is a diverse taewa economy in or out?).

All this could be read as a co-option of Māori assets by capitalist processes (see for example Bargh 2007, 2011), but I read it as an articulation that enacts a 'productive tension'. Māori assets are being normalised, calculated and speculated upon as assets for capitalisation, but Māori themselves are now in charge, or at least some Māori are largely in control. Māori investors and mediators must choose how they wish to articulate industrial or capitalist and diverse economies, and must be accountable to a Māori politics in this regard as well as to financial accounts. AG is another articulation. Whilst seen as something of a failure by state and capitalist iwi actors, it continues to produce opportunities for Māori to perform, make visible and narrate their economy differently and to create new circulations of exchange. Articulation between economies does not necessarily mean taewa economies are becoming capitalist economies. Rather new elements are being drawn into taewa economy, requiring negotiation and reworking of relationilities. A different taewa economy is always in the making, with actors such as Tāhuri Whenua, Nick Roskruge, and the potato psyllid, at work in shaping emergent directions and relations.

Structuralist economic geographers (Sunley 2008; Peck 2013a, 2015) routinely challenge poststructuralist accounts for their failure to attend to power. The taewa case suggests that by adopting what Peck (2016) terms principles of theoretical pertinence, an assemblage approach can accommodate power by recognising articulations across the borders of an assemblage, strategic action in agencements, and the possibility of multiple potential trajectories in any assemblage, some of which may prove expansionary while others may take very different directions. The principles of pertinence here are those of the politics, ethics, and efficacy of Māori development aspirations, which of course are politicised and contested and take different and political forms at local and national levels. Established readings of this politics have focused on making state and local aspirations commensurate, and on evaluating projects and other interventions in those terms. The rise of the Taniwha economy changes such calculations and associated fields of possibility.

Private ventures in taewa production and marketing may take many forms, including those tied to cultural economy, hapū aspirations and collective land. As a collective initiative, however, the fostering of taewa economy will depend on investment (or its absence), which will inevitably guide and shape lines of emergence. Investment may take multiple forms from venture capital to working capital, fixed capital, capacity building, culturally premised hapū labour time, 'or simply' support for local economy. Collective economic experimentation is difficult. Constituting the collective from the different trajectories of object and subjects, potentially contradictory meanings and qualifications, and different expectations and aspirations, must be worked at. In the case of Aunty's Garden, top-down projects were launched to articulate diverse taewa economies to capitalist distribution networks and consumer markets. At some point, and with the intervention of the Psyllid and shifting interpretations from the MET as to how Māori economy should be practised (and with them calculations of qualities and potentialities), the Taewa got stuck and stopped circulating.

Translation of meanings, values and investment from diverse to capitalist economies is problematic. Not only does it require translators, in this instance entrepreneurial agents of both economies. But complex exchanges of financial and cultural capital. An important point is that entrepreneurialism looks different in capitalist, state and diverse economies. The KAHC member supporting AG (one of the aunty stewards) is no less shrewd or entrepreneurial than the MET official parroting back economic nationalism with a Māori flavour, or high profile actors looking to develop the rohe of other iwi. The fact that Aunty's Garden ceased to expand along its original projected lines and began to contract along certain disabling lines attests the challenges but does not mean the experiment was a failure or that its energies have dissipated. Rather, it has taken new lines of expansion. A new project has emerged from MET that takes up many of the ideas of Aunty's Garden, which was all along seen as valuable by KAHC and MET's economic consultant Price Waterhouse Coopers. This project is centred on new terms of articulation with the capitalist economy. Have their ideas been stolen and their hope coopted? Not entirely. Their struggle to find a point of articulation with the capitalist economy will continue. The collective has more than just trace relationships between the KAHC official and the fellow aunties these have been strengthened and the resolve to do it themselves in their own way, which means practicing a form of cultural and cultural economy entrepreneurialism and economic experimentation that is appropriate to their diverse economy.

Taewa link Māori economy to multiple cultural domains and wider economies. The taewa economy is partially assembled into the Taniwha economy and vice versa, by negotiated relations among different understandings of economy and the deeds of trust and duties of care that guide relations between the Trusts, hapū and other collectives that seek assistance and/or make claims on Trust funds to build community and economy. Growers and Māori organisations have been able to negotiate investment for the taewa economy from Māori Trust Boards, often in terms set by relations between Trust Boards and the state and the interests of the latter in the Taniwha economy (for example, Aunty's Garden).

Given continued interest in taewa as a cultural economy project and as an economic object beyond Māori economies, it is important to consider what lines of expansion or otherwise are apparent in contemporary taewa economy, particularly in relation to the points of articulation between taewa and Taniwha economies. We might imagine two starkly opposing futures. First, the taewa economy disintegrates into two: a peripheral, largely cash economy with a handful of growers (not necessarily Māori) servicing niche urban and farmers' markets; and a marginal cultural practice of food provisioning for ceremonial, subsistence and gifting purposes. Only a few people grow small amounts of taewa on marginal spaces of land. Taewa is at the mercy of the potato psyllid and neglect, with opportunities to confront both limited by financial resources. Commercial opportunities are captured by more fully commercial actors in a better position to commercialise taewa, which will play a diminished role in regional development. The opportunity to take back local economies by producing foods that link producers to place is lost.

Second, the taewa economy is alive and vibrant. A number of Māori still enthusiastically grow taewa. Tāhuri Whenua is at the heart of taewa proliferation as they have secured a constant supply of seed taewa and promote taewa across Aotearoa to different Māori groups. They inject resources and interest into economy. The expansion of Māori gardens, where Māori vegetables are grown, continues due to the interests of Māori and the support of Tāhuri Whenua. As a collective Tāhuri Whenua has established a number of significant lifelines to protect taewa (e.g. virus-free taewa seed, investment, knowledge, and Māori and State interest). The virus-free seed program ensures a constant and consistent supply of seed taewa. Research is situated to contribute knowledge to small-land holder vegetable producers, whom largely constitute taewa production. A number of successful research projects and investment channels demonstrate the State is interested in supporting Māori economy-making projects. This vision is utopian and underpinned by institutions (TW, TPK, Growers, research agencies, MET), kaitiakitanga and associated sustainable environmental practices across regional NZ, tino rangatiratanga or effective institution of sovereignty over cultural economies, effective biosecurity practices at all scales, and a continued openness towards lines of flight or possibilities for taewa circulation. In the following section I ask what might be done to take back taewa and other economies in these terms.

## **8.5. Taking back economies, or at least investment and success on different terms**

Gibson-Graham *et al.* (2013) have issued a significant challenge to those practising or celebrating diverse economies – so as to take back economy. For Māori economy actors this means something somewhat different to those looking to build alternative, non-capitalist economies at community level in post-industrial urban settings. Iwi are major corporate actors in New Zealand's capitalist economy, while at the same time bringing significant political force to bear on access to state resources. They have the potential to build a very different alternative economy that takes up the wider challenge of 'A post-capitalist politics' to rearticulate state, capitalism and diverse economy into a socio-political and socio-ecological project for the Anthropocene. While tikanga and various

kaupapa of economic practice continue to point to an exciting, long-term and alternative project, there is no guarantee that iwi will ultimately direct their resources in this way. What is at stake is the rare potentiality of an emergent political project, the contours of which are difficult to grasp from the outside and to which access is difficult to negotiate and influence harder still. Initial indications, however, are promising and the complexity exciting, and this section takes up some of these promising lines of flight.

*Repolicing, rearticulating economy:* State agencies are major 'investors' in the taewa economy (whether direct or through funded research), but these agencies are Māori rather than neoliberal. In the Māra Kai and other projects, Tāhuri Whenua has worked itself into investment channels and negotiated itself a management role. In its practice it works alongside Māori actors to allocate state funds in ways that promote diverse economy and work to take back economy. It seeks to mobilise state, capitalist, and Taniwha economy networks to ensure funds are invested to develop ongoing productive gardens. Working alongside Aunty's Garden, it has sought to mobilise Māori researchers and Māori market-makers into activities that yield opportunities for Māori to practice economy and create new knowledge across Māori - capitalist worlds in their own terms. Tāhuri Whenua has demonstrated the value of state investment to shape diverse economy from the bottom up in projects to take back economy in and for Māori communities. The taewa economy, which is itself marginal in terms of size and profile, is an exemplar of what might be achieved in terms of stimulating community embedded economy from reworking the conditions under which state-Māori and hapū-Trust Board relations are conducted. It provides a wider model of the continued value of state engagement in economic relations beyond the box of neoliberalism.

*Reinterpreting success:* Drawing this conclusion relies on reconsidering notions of success in terms of diverse economy possibilities rather than profitability or productivity narrowly writ, both in terms of timeframe and demonstrable return. Initially, the Māra Kai project was seen as a marginal success, but not only have a number of Māra Kai initiatives gone on to prove successful in both diverse and capitalist economy terms, but the project helped to build capability and foster novel development approaches within Tāhuri Whenua. Tāhuri Whenua and Aunty's Garden demonstrate a number of successes. Both initiatives have demonstrated that Māori are invested, both through project uptake and participation. It shows Māori are interested. Likewise various Māori groups have been able to generate other projects due to these organisations. These may be emergent ideas and/or projects, but they generated something, and certainly provided an experimental space for Māori to learn *economy* and the challenges and possibilities of articulation. If projects are read as being a success or failure along commercial lines this diminishes the significant economy-making moments and overflows of these projects. If investment for projects such as Tāhuri Whenua and Aunty's Garden does not exist, arguably the gaps between established commercial actors and grass-root Māori actors will increase. This may have the performative affect of disempowering other ways of being economic.

At the same time, while it is important to champion Brand Māori projects such as the Indigenous Food Cluster, it is important to recognise the conditions and terms under which this

success is shaped and measured. That is, the state champions projects that fit its wider models of economic development. However, the tale of who qualified for such projects is largely left out of discussion. To be a member of this initiative, Māori were required to have already established market products and to demonstrate profitability. The Brand Māori project was designed to add to demonstrated success rather than to support more grassroots initiatives (the small producer, or the collective who aspire to create a garden to support both Marae and whānau, and commercial interests). The challenge of taking back the economy and building a Māori economy that will emerge along different lines of flight is to find ways to foster and champion different types of projects and success, and to ensure that these support each other for a Māori defined process of economic development that is socially and environmentally just for all.

*From iwi corporate capitalism to redirecting corporate capitalism for iwi government*, financial institutions, consultants, research providers and a few post-Waitangi settlement iwi corporates have a big stake in making Māori economy calculable and developing projects to commercialise and corporatise Māori economy. At present discussion about Māori economic potential by the MET and by national agencies such as MBIE is dominated by accounts of iwi as capitalist, big-business actors - *big agri-business* (e.g. dairy, beef and sheep, fisheries and forestry), tourism, and infrastructure. The State has directed significant financial and policy investment toward this Taniwha economy. Economists and myriad consultants have begun to frame and measure Māori economy in terms of traditional models. The challenge, as Bargh (2012, 2014) insists, is to find new models that go beyond recognising that shareholding is different and there is an additional socio-cultural bottom line to asking what this might mean in terms of doing capitalism differently, including encompassing diverse economy initiatives and extending conceptions of success for investment opportunities. Accepting this challenge offers an alternative to back-foot defence of accumulation imperatives that appear to marginalise the more immediate demands of the life-worlds of 'shareholders'. It might extend to investment in diverse economies and new metrics of success and to using economy to address power, wealth and resource asymmetries in Māori worlds. Arguably Trusts might adopt more creative responses than providing financial literacy courses that limit the possibilities of economic activity to that already understood in mainstream terms as commercial, including fostering the activities of situated Māori economic collectives that are already engaged in creating positive futures. Cultural economy-making projects, such as the taewa and other Māori vegetable economies, can add new dimensions to Taniwha economy initiatives.

*Rethinking a Taniwha economy*: Mobilising hapū-grounded or iwi-state MET-like development projects are likely to be far more generative if economists' ideas of economy were to be challenged by Māori theories of economy, Taniwha economy ideas, and cultural-economy and diverse economy ideas of economy. Neither the economy nor the *social* are neat categories. AG demonstrates an articulation in practice of multiple ideas of economy and related forms of social practice. It produces a creative tension, which while in this case led to a conflict between the potentiality of AG and mainstream measures of economic success, could easily have been resolved

differently by a rethinking of what it was achieving and what it might become. Economist and capitalist Māori ideas of economy squashed this potentiality, and committed AG to failure despite efforts by AG's manager to rethink the economy upwards towards those who would judge its merits. Capitalist ideas about what it was to be economic came to frame narratives of the project and the evaluation of its outcomes. Māori economy has a unique historical opportunity to become not so much a diverse economy in Gibson-Graham's terms, but an articulation of different economies or economic initiatives that mobilise projects across capitalist, state and non-capitalist forms and spaces, projects that do not simply begin with some prior essentialist Māori economic subjects but foster Māori economic subjects for a much more diverse Taniwha economy.

## **8.6. From rethought Taewa economies to rethinking economisation more widely.**

Alongside repositioning Māori economy and advocating for taewa, this thesis sought also to use taewa to confront 'economy', unveil the constitutive economy-making properties of circulation and institutions of exchange and retheorise economisation. The account of taewa economy presented in this thesis accentuates the multiple co-constitutive actors, objects, moments, relationships and places at work in economy making. It reveals economy as a situated, co-performed and emergent property of enactive practices, including putting objects, qualities/values, and ideas into circulation and building institutions of exchange. Taewa economy is at once social, political and cultural, and in the grip of different political projects, cultural relations and investment trajectories that differentially restrict and enable the freedom of movement of objects, qualities and ideas. There is something of Haraway and Mitchell in this reading as well as Callon. Taewa economy is situated, performative, and subject-making. It is shaped by institutions and calculations of qualities that facilitate exchange just as it performs its own institutions of value, exchange and practice into being. And all this is set firmly in the context of contradictions and articulations with other economies, capitalist and diverse. There is agentic possibility and real potentiality to take back the economy in ways that are more practically imaginable than Gibson-Graham (2006, 2008) imagine in their call for a politics of possibility.

While Callon's ideas of circulation are designed to capture less directed institutional framing work than that performed by TW, the case of the taewa economy reiterates his call to direct attention to the work of institutions in making-economy. Callonistic accounts tend to exclude 'before market' actions from analysis. The economization and marketization literature assumes that exchange objects have a rudimentary pathway to somewhere. They argue objects must become disentangled from their producers in order to circulate. The taewa economy shows otherwise, yet the taewa does not necessarily become autonomous in order to become free to circulate. The relationship between object and institution in this research shows they are not dislocated. Tāhuri Whenua and taewa are co-performative in the circulation of taewa; some growers view their produce as extensions of themselves, the relationship is not lost through and/or after exchange. In many instances, Tāhuri Whenua (the institution) is the long acting and enacting; to use Callon's

words, a prosthetic that creates economic pathways and keeps taewa moving. Economy is thus revealed as co-production of diverse framings by diverse institutions and actors.

The taewa economy and the potentiality that resides within it are very much products of the articulation between and across economies that is largely left out of both the economisation and diverse economy literatures. Each of the three empirical cuts into economy taken in this thesis demonstrate an articulation between diverse, capitalist and state economies as actors move between them and objects circulate around them. Practices bind (such as state policy making) them together, while meanings, qualities and subjects become co-constituted across their border. J.K Gibson Graham and the wider community economies group theorise and seek to enact diverse economies outside capitalist economies. The taewa economy confirms that diverse economies do not exist within neatly bordered separate spaces. Taking back and enacting different economic futures needs to think about processes of articulation and the multiple circulations of objects and values that constitute them, as well as imagining, enacting and reproducing economies outside of capitalist, and encourage their expansion. In fact, thinking taewa economy (re)politicises Gibson-Graham *et al.*'s post-capitalist project and suggests a broader set of possibilities and a richer potentiality than that imagined in the diverse economy literature. At the same time, it de-privileges the capitalocentric nature of Callonistic ideas of economisation as a process restricted to capitalist economy and markets. Thinking and doing taewa economy leads to more-than-markets and to 'more-than-market' imaginaries of what may be economic.

My account of taewa economy also emphasises the non-human, and demonstrates the possibilities of accommodating the bio-social in theorising socio-technical collectives. The bio, particularly in agri-food economies, creates conditions for and limits to what is possible and constitutes what is problematic. It acts decisively if not re-assembles socio-technical collectives. The psyllids at work in the taewa economy highlight the struggle between humans and non-humans, and rework the politics and other relations among non-humans who constitute economy in particular ways. As with human-human relations a series of negotiated struggles mediated by socio-technical devices and interventions takes place and form differently in different places with different objects and social relations. The struggles among psyllid-Māori-taewa and psyllid-Pākehā-potato are different and mediated differently, and create a series of interconnected struggles, exchanges and socio-technical mediations that are pivotal to knowing and making taewa economy.

Assembled together, these theoretical insights allow me to recognise the subjectivity and uncertainty of economic objects, actors, markets and economy. They bring into provocative lines of sight the multiplicity of components of an economy and their assemblage, and highlight the situatedness, uncertainty, and asymmetries of economy-making. Markets, actors, relationships and exchange are particular, rather than uniform. The narratives in Chapters 5-7 are far from discrete accounts, but bits of the genealogy of the others connected by actors, relations and contingency, and by my own presence in them. In these Māori potato economies, market making is much more unstable, uncertain, contingent and temporally awkward than capture by Callon's notion of economisation. Rather taewa economy is co-performed into being by co-constitutive relations and

agentic realisations of them. Taewa economy is constituted by experiments in economy and political projects that align governments, iwi organisations, non-governmental agencies and local actors.

## **8.7. What is the economy if it is not economy? Lessons for a vibrant economic geography.**

To end, I return to the question of what is economy. Despite journeying around for four years I could not find 'the taewa economy'. Instead, I encountered diverse and situated sets of circulations and exchanges that are given effect through negotiations and co-constitutive struggles among diverse and situated actors, objects and relationships. Yes, I found a host of familiar economic actors and ideas, but they never really aligned in such a way that it became possible to say 'I see the economy'. Rather I saw economic performances, each experimental, each different, and each temporary if not fleeting. Economy then is both spatial and temporal, and figured differently by different actors and their relations to each other and other actors. In this sense there is not such an inside or outside, there is a relationality between and across economies and actors. Economic geographers are well positioned to make these recognitions, and other economic geographers have made similar observations. Indeed, the absence of The Economy gives economic geographers hope and reaffirms the viewpoint that what is *economy* escapes the pre-logic of economists. Whilst economics and economists play a significant role in framing what is economy and performing markets into being through various claims and models, economy and its doing resists enclosure within this project. Economic geographers are well positioned to tell the tales of how economy can be otherwise.

An economy is thus anything but a prior and free standing (or ontological) object. Supposing it to be there presupposes more or less definitive successes and failures to find it. It is being built, and is always emergent and unstable. The taewa economy that I have brought into being in these pages through my journeys, exchanges and narratives, is, in its making (and unmaking), my own creation. Indeed the material traces that I assemble into this narrative are as much performed by the particular actions and ideas of certain 'experts' (stewards of Māori gardening, scientists, growers organisations, development agents) as they are by the producer/consumer/distributor market actors who are normally understood to be an economy's actors. In these ways, an antipodean economic geography of a marginal economy such as the taewa has value for understanding other economies.

Firstly, the story of taewa attends to the role of non-humans and their agentic capacity to alter the journeys of 'commodities', mediations of circulation, and the socio-technical relations of economy. the struggle between non-human and humans in economy making (and maintaining) can be carried over to various agri-food contexts, whether it be to put firmly into economy the human-biological agencies that have destabilised New Zealand's dairy economy or the arrival of PSA (bacterial vine disease) into its kiwifruit economy. These are situated in New Zealand, but human-non-human agencies are always at work in agri-economies.

Secondly, it speaks to efforts to make markets, particularly in developing economy contexts, whether in the global North, global South (see Ouma *et al.* 2013), or post-socialist Europe (Williams *et al.*, Smith and Stenning). It points to the realities and virtues of economic messiness and advocates for interventions that begin with the messy as normal. It highlights the intermediation of political projects and economic experimentation and to the way that the performance of politically situated actors, often from elsewhere (i.e. Non-government organisations, charitable organisations and development banks), can open up or close down experimentation by sampling thinking economy in particular ways, even before mediating investment flows. The case calls for greater openness to different knowledge, to rethinking failure, and to experimentation, all as part of a rethinking of economy around a political project of fostering potentiality. In so doing the case points to the difficulties that must always strain articulation and translation work, and should offer cause to rethink efforts to render and resituate people and practices as 'economic'. This need not mean neoliberal or export-led.

The story of the taewa suggests that economies and economy-making are situated and different. Even within the Māori economy economisation projects are variegated and produce different forms of economy. If we accept that economy is emergent, is in circulation and different across space, then this thesis provides an approach to seeing, revealing and knowing the variegated forms of economy. A critical contribution yet to be made to the economisation literature would be to document the myriad forms of economy-making and understand how they relate to other economy-making projects elsewhere. This promises a better understanding of the variegated nature of diverse and capitalist economies, and in turn a better understanding of marginal, local, regional and national economies and their co-constitutive relation. Geographers *do* reveal economy as different in different places, the conversation needs to extend to the relationality of economy across different places and scales and what this means for knowing economy more broadly in wider social science debates.

Lastly, this work points to new opportunities for a post-capitalist project. A marginal economy underpinned by external financial investment still offers possibilities for people to negotiate power and redistribute agency among its participants. Māori do taewa circulation largely on their own terms and in their own denominations. Local institutions are able to capture money and then redefine the conditions around investment to tailor investment to work for diverse economic aspiration. It points to there being some hope for the redistribution of power. There are small fractures in the discourse and project of development, whereby actors can and already do define and frame what success looks like on their terms.



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## Appendix A - Tāhuri Whenua Hui encounters

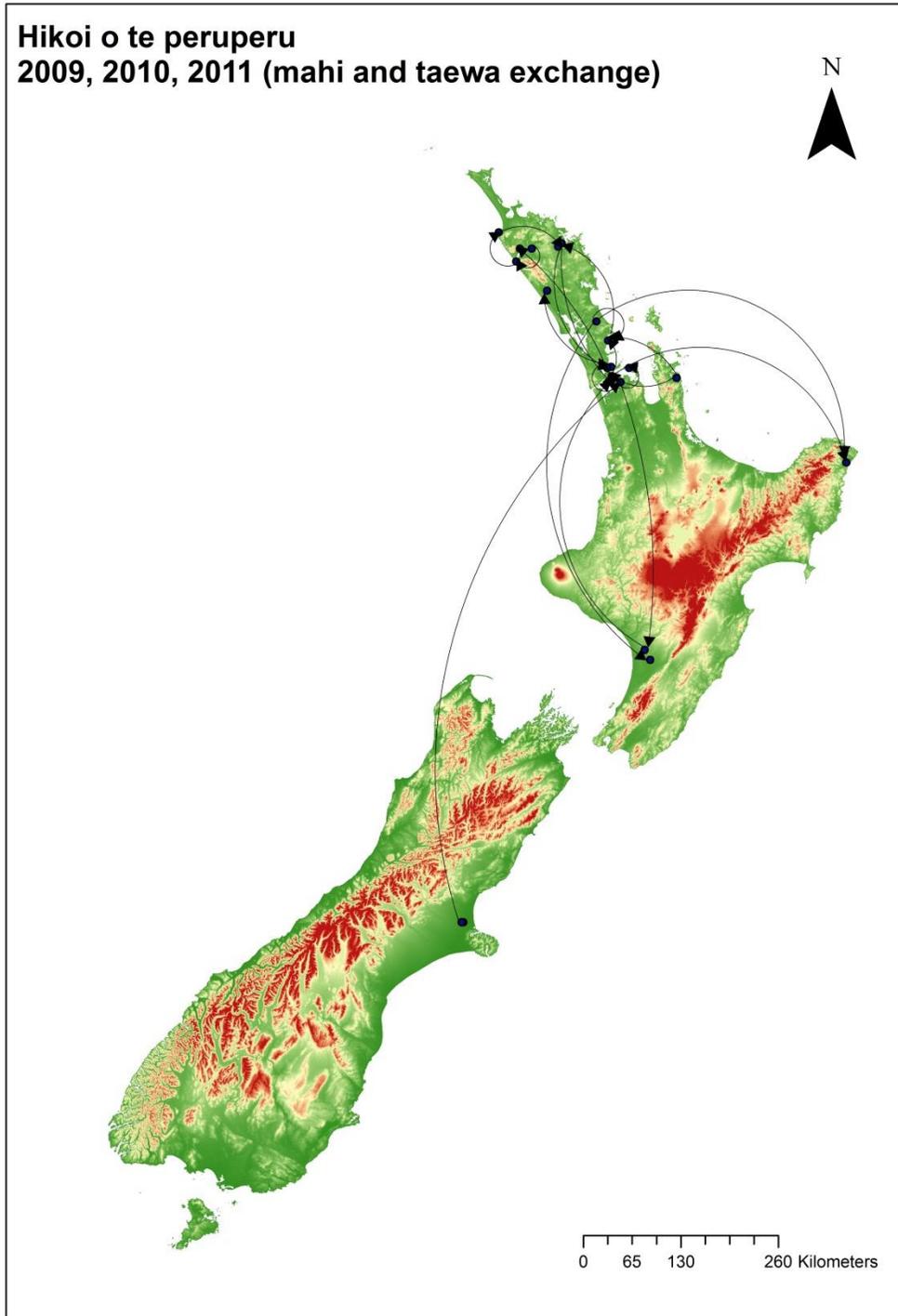
The following table details my participation at Tāhuri Whenua Hui. The table does not include all the people who spoke at each hui. The duration of an AGM was one day. Hui-a-Rohe were held over three days.

Hui name	Location/Date	Details
Tāhuri Whenua AGM	Parewahawaha marae, Bulls / 18/9/2010	One day hui Presentations: Aunty's Garden (AG); Nick Roskruge (NR); The Uncles (TU); Hanui Lawrence (HL); GNS Science; Aleise Puketapu (AP); Simon Lambert (SL); Me Dialogues: SL, TU, NR, AG, HL, AP Artefacts: TW Chairman's report; psyllid information; AG concept hand-out; Taewa seed
Tāhuri Whenua Hui-a-Rohe	Owae marae, Waitara / 1-3/3/2011	Three day hui Presentations: AG, NR, AP Aunty's Garden; Nick Roskruge; Makuini Chadwick (MC); Me Dialogues: TU, NR, AG, HL, AP Artefacts: TW Hui poster and Taewa poster; Taewa book; psyllid information; Māori vegetables calendar.
Tāhuri Whenua Hui	Pukearuhe marae, Urenui / 2/3/2011	One day hui Presentations: AP; NR; Me Dialogues: TU, NR
Tāhuri Whenua AGM	Rongomaraeroa marae, Porangahau / 13/8/2011	One day hui Presentations: AG; Plant & Food; SL, NR, AP Dialogues: AP, TU, AG, NR Artefacts: TW Chairman's Report; TW Hui Poster and Taewa poster; psyllid information; Taewa seed; AG merchandise; Taewa book
Tāhuri Whenua Hui-a-Rohe	Te Haraki marae, Manoeka, Te Puke/ 17-19/2/2012	Three day hui Presentations: NR, HL, AP, Me Dialogues: NL, HL, TU Artefacts: seed Taewa; psyllid information; taewa books; TW Hui Poster and Taewa poster:
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Tāhuri Whenua Hui	Te Uru Taumatua, Taneatua / 19/2/2012	One day hui Presentations: NR, AP, Me Dialogues: AP, NR
Tāhuri Whenua AGM	Kaiwhaiki marae/Pa, Whanganui River / 8/9/2012	One day hui Presentations: NR, AP, HL, Me Dialogues: TU, HL, AP, NR, SL Artefacts: seed Taewa; psyllid information; taewa books; TW Hui Poster and Taewa poster
Tāhuri Whenua AGM	Te Putahi a Toi, Palmerston North / 31/8/2013	One day hui Presentations: NR, AP, HL Dialogues: TU, AG, Artefacts: taewa books; psyllid information; TW Hui Poster and Taewa poster.
Tāhuri Whenua AGM	Aorangi marae, Feilding / 27/9/2014,	One day hui Presentations: NR, HL, SL, Me Dialogues: Uncle Peter, HL, NR Artefacts: seed Taewa; taewa books; psyllid information; TW Hui Poster and Taewa poster.

## Appendix B - Personal movements of taewa

The following map outlines some of the taewa I moved between 2009 and 2011. I would receive taewa from growers and or purchase taewa upon chance encounters. These were then brought back to Auckland before I moved them on. Most the taewa I received would be taken to Tāhuri Whenua in Palmerston North and/or Uncle Jimmy. The map does not include movements in 2012 and 2013, nor does it include the taewa I moved to and from hui on behalf of Tāhuri Whenua.



# Appendix C - Aunty's Garden Supply Chain Concept

