# Composting Colonisation

*An Ethnographic Study of Ecological Māori Agriculture*

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# Abstract

This ethnographic study outlines the spiritual and political underpinnings of three Māori farms in Aotearoa/New Zealand. I conceptualise a sub-division of the Degrowth movement interested in incorporating Māori worldviews and traditions into ecological agriculture. The participants' aspirations and experiences are analysed as examples of a movement in the dawn of a new developmental phase. I depict the movement from the perspective of two separate but interlinked phases: initially, the focus was on cross-pollinating ideas, practises and spiritual beliefs. Sequentially, the movement diversifies its methods and philosophies while reinforcing its political stance as Indigenous people.

The study aligns ecological Māori agriculture with Euguene Anderson's framework for successful human-environment relations. By tracing the impact of Aotearoa/New Zealand's bicultural context and the friction between environmentalism and Māori values, this study interprets the interplay of Māori worldviews and ecological agriculture as a continuum of experiences connected to racism, colonialism, ostracism, resource management and aspirations of food sovereignty and self-determination.

**Keywords:** Degrowth. Ecological Agriculture. Food Sovereignty. Indigenous Knowledge. Māori. Permaculture. Self-determination. Social Anthropology.

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## Glossary

- *Atua* - deity
- *Aotearoa* - the land of the long white cloud (New Zealand)
- *Awa* - river/stream
- *Hāpu* - sub-tribe
- *Hawaiki* - ancestral homeland
- *Hine-Ahu-One* - primal woman created by Tāne (also Hineahuone)
- *Hua parakore* - a Māori-specific Certification, lit. “product free from rubbish”
- *Io* - supreme God
- *Iwi* - tribe
- *Kaupapa* - principles and ideas which act as a base or foundation for action
- *Kai* - food
- *Kaitiakitanga* - guardianship/stewardship
- *Karakia* - prayer/incantation
- *Kūmara* - sweet potato
- *Mahi* - work
- *Mahuta (Tāne for short)* - deity of man
- *Mana* - Authority
- *Mana Whenua* - Authority over land
- *Mātauranga* - knowledge
- *Mātauranga Māori* - intergenerational Māori knowledge
- *Mara* - garden
- *Marae* - tribal centre for ceremonies
- *Mauri* - life force
- *Moa* - an extinct flightless bird
- *Moana* - ocean
- *Mokopuna* - grandchildren
- *Ngā Atua* - Deities
- *Pākehā* - New Zealanders of European descent
- *Papatuānuku* - Earth Mother
- *Ranginui* - Sky Father
- *Tāne* - The god of forests and of birds, and the son of Ranginui and Papatūānuku (also called Tāne-mahuta, Tāne-nui-a-Rangi, Tāne-te-waiora and many other names)
- *Tangata* - people

- *Taniwha* - a mythical creature
- *Taonga Tuku Iho* - ancestral treasure
- *Tapu* - sacredness
- *Te* - The
- *Te ao Māori* - The Māori worldview
- *Te ao tūrua* - The natural world
- *Te reo* - the Māori language
- *Te Tiriti o Waitangi* - the Treaty of Waitangi (Te Tiriti for short)
- *Tikanga* - societal lore/practice
- *Tino rangatiratanga* - self-determination
- *Tūī* - a medium-sized bird endemic to Aotearoa/New Zealand (Scientific name: *Prosthemadera novaeseelandiae*)
- *Tūpuna* - grandparents/ancestors
- *Wairua* - spirit
- *Whakapapa* - genealogy
- *Whānau* - family
- *Whenua* - land

# Preface

*The rain just started. I hear the prehistoric call of the Tūī bird. It precedes the intense flutter that zooms past above me and lands in a pine tree up ahead. I'm standing on a gravel road. It curls like a snake from my feet between a clearing in what otherwise looks like a pine forest interspersed with gorse and blackberry bush beyond sight.*

*So far every sign of human activity is more akin to a post-apocalyptic movie than what I had imagined a farm for sustainable living to look like. A rusty bus, left to be reclaimed by nature, stands on one side and four solar panels overgrown with moss and lichen on the other. Further down I see a tilting polytunnel filled with seedlings scattered in such a way that it makes me wonder if birds or humans have planted them.*

*Clucking and pecking from the chicken coop adds rhythm to the whistling afternoon breeze and it will be a few hours before anyone else arrives. The fog hovers just high enough to grant a view over the mountains southeast of the tiny wooden hut I will be sleeping in. It is my first day at this "off-grid" permaculture farm. I am simultaneously frightened and excited about what lies ahead.*

-Outtake from my field journal.

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The people I met on the farm depicted above, and those I visited elsewhere, were no carbon copies of Bear Grylls. They were not doomsday preachers by any means and I would claim that they would not qualify as so-called "preppers" either. But if the cinematically prospected apocalypse would come about, my money would be on them surviving it.

Before heading into the nitty gritty, it should be noted that the idea of perceiving the people I met during my fieldwork as a unit–a movement as it were–does not come from a sense of homogeneity, or even conformity. I simply found crucial aspects of the worldviews and lifestyles of specific individuals I encountered in the field interesting and inspiring enough to warrant a search for the clandestine red thread that may hold them together. Interesting because they all stood outside the norm of their peers and inspiring because they took the fight against both discrimination and globalism down to their personal space and made it concrete and quotidian. They showed me that every grain counts, and that the walk is more important than the talk.

Also important is that I will use predominantly Māori words where possible and relevant throughout this paper. An example is the conscious choice to write the Māori word for New Zealand, Aotearoa, before New Zealand. The thesis is overtly aligned with decolonialism, and as such will actively promote Indigenous values and should be read as a statement in favour of Indigenous inclusion in matters of–not exclusively but

particularly–environmental character. I must acknowledge that the study I have undertaken is not impartial, apolitical, or unbiased. The choice of topic, the purpose, and the design of the study are influenced by my spiritual and political beliefs. In this case, my beliefs can be summed up as a conviction that humanity has a responsibility to care for the environment. I don't see this as being like parents to a child, but rather as every action *against* the peace and preservation of the environment, which is our habitat, is like a dagger against the thin, silk-like fabric that protects our very soul.

**Whatu ngarongaro te tangata, toitū te whenua**

*People will perish, but the land is permanent*

– Māori proverb

# 1. INTRODUCTION

In October 2023, New Zealand (in Māori: *Aotearoa*) voted for a change of government. After six years in power, the centre-left Labour Party gave way to the centre-right National Party. The focus for the new prime minister is economic growth, and the means to that end include cutting down on government spending for the implementation and teaching of the Indigenous Māori population's language and a similar cut in spending for climate change mitigation (Malpass, 2023).

This paints a pretty conforming picture of Aotearoa/New Zealand politics and the bicultural context of New Zealanders' social reality. The Māori population's lack of sovereignty and issues of climate change are often concerns of politically left-oriented individuals and organisations.

Seen at the surface, this implies a potential group coherence between Māori and *Pākehā* (the common denominator for non-Māori by Māori and Pākehā alike) regardless of whether their priority is the environment or Māori sovereignty. This is far from the truth. Not on the level of the indisputable and irrelevant fact that Māori individuals are represented on both sides of the political field, but on the level of group cohesion. This is to say that, regardless of political stance, there is a foundation of colonialism and racism underlying the relationship between Māori and Pākehā that infects even common goals such as environmental protection (see Delahunty, 2020).

In response to global climate change, the Labour government of 2019 passed into law a target to reach net zero emissions by 2050. The implementation of this target contains multiple recognisable features from the international conversation on sustainable development, sharing many buzzwords from both the European Union and the United Nations. Ideas of *circular economics*[1], *bioeconomics*[2] and the more recent amalgam *circular (bio) economics* (Foschi et al., 2023; Tan & Lamers, 2021) spearhead the official narrative. However, questions have surfaced regarding tech optimism and counterfactual conclusions at the foundation of these narratives (Corvellec et al., 2022; Vivien et al., 2019). Can these ideas be the solution to all of our climate problems? Who partakes in the conversations on what measures to take and what policies to implement in the name of sustainability? Indigenous

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[1] A sustainable development project that eliminates waste and pollution creates infrastructure that promotes the circulation of products and materials while regenerating nature (Aotearoa/New Zealand specific, Kenworthy, 2021; Globally, The Ellen MacArthur Foundation, n.d.).
[2] An umbrella term for methods involved in generating economic value from biological materials (Aotearoa/New Zealand specific, Coriolis, 2023; EU specific, European Commission Directorate-General for Research Innovation, 2018)

populations across the globe are topping the list of those most vulnerable and at risk of climate change-related suffering while also being the least in power to shape the conversation going forward (DESA - Indigenous Peoples, n.d.).

Many studies on the intersection of Indigenous populations and climate change have been done across many fields of research. Those of relevance to this study will be presented below while discussing the purpose of the present study.

## 1.1 Purpose and research questions

This study aims to widen the understanding of the intersection of Indigenous knowledge and ecological agriculture. I wanted to know how Indigenous perspectives informed and motivated individuals to forge alternative paths of sustainable farming. I also strived to learn about what effects the bicultural context of Aotearoa/New Zealand might have on these matters.

In its broadest sense, this paper will reflect on issues of land use, production and consumption of food, climate change mitigation, Indigenous knowledge, and socio-political resistance. In a narrower sense, I will try to envelop a collective narrative from the experiences of dispersed individuals united in ecological agriculture informed by *te ao Māori* (the Māori worldview). The red thread cutting through all levels is my drive towards understanding the "re-enchantment of agriculture" (Wright, 2021), by which I mean, the intersection of spirituality and land use.

I have chosen to use the term *ecological agriculture* as an umbrella term for specific types of sustainable land use. My criteria for it within the context of this paper is that it involves a holistic ecosystem-central approach to growing food which is informed by both political and spiritual aspirations.

This is noteworthy because I needed an umbrella term for the various types of sustainable land use my interlocutors adhered to while also separating my anthropological analysis from the ecology tradition of *agroecology*, which would otherwise appear diffuse. What characterises agroecology is the strive for sustainable agriculture by promoting biodiversity, recycling wastes, minimising energy dependency and creating a holistic system of "beneficial biological synergies" (Hathaway, 2016).[3] The primary difference between agroecology and ecological agriculture in this context is the emphasis on scientific

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[3] To the insightful reader, this might sound like *permaculture*, but the main difference is that permaculture is a philosophy of design whereas agroecology is rooted in the scientific methods of ecology (Altieri & Toledo, 2011: 588).

methodologies within the former (Hecht, 1995: 4–7) and a spiritual emphasis in the latter[4]. This is not to say that there are no spiritual connotations within agroecology and vice versa regarding science within ecological agriculture. It is a distinction necessary due to the practical approach agroecology takes to the investigation of Indigenous knowledge systems. Conversely, I will focus more on the spiritual component in this paper.

The interconnectedness of agriculture, climate change and Indigenous populations is undisputable (DESA - Indigenous Peoples, n.d.). As pointed out by Jan Salick and Anja Byg (2007) in their report on Indigenous peoples' relationship to climate change, the realities of Indigenous peoples symbolise the urgent need to mitigate climate change and simultaneously, many Indigenous ways of life exemplify effective climate change mitigation too (ibid.: 4). An issue of special concern is food sovereignty. This collective right stemmed out of a critique of industrial farming and a demand for the humanitarian goal of food security that had led the humanitarian discourse until the turn of the 21st Century to include food production and not only food access (La Via Campesina, 2021).

One example of the intersection of ecological agriculture and Indigenous knowledge is Aotearoa/New Zealand. It is a bicultural country, i.e. the descendants of European settlers share the national imagery and cultural influence with the Indigenous Māori population. It is geographically positioned in the southern hemisphere's remote Pacific Ocean, but for all intents and purposes, Aotearoa/New Zealand belongs politically and financially in the Global North.

As we will see in the next sub-chapter, academic interest in the Māori culture is long-standing from both foreign and domestic scholars. However, climate change-focused environmentalist studies have rarely honed in on the unique situation of the Māori population. Similarly, not many examples from the field of ecology treat agroecology from a Māori perspective (except Moore et al., 2016).

Following this, I chose to investigate small-scale ecological agriculture inspired by te ao Māori in Aotearoa/New Zealand. To open up the discussion for wider themes and to invite the possibility of plurality in the study participants' reasoning behind sustainable land use and its (potential) connection to their worldviews, I designed two broad research questions:

**1. How do Māori knowledge, worldviews, beliefs and practices influence ecological agriculture in Aotearoa/New Zealand?**

[4] Even this distinction is not entirely manifest as Altieri & Toledo (2011) state. Arguably, it may prove futile to separate agroecology from ecological agriculture, but I have chosen to persist with this notion in the interest of cogency.

**2a. What motivates individuals to incorporate Māori knowledge, worldviews, beliefs and practices in ecological agriculture?**
**2b. How can the bicultural context of Aotearoa/New Zealand help explain these phenomena?**

## 1.2 Previous research

The academic research into the two main topics in this paper, Indigenous knowledge and ecological agriculture, is vast and long-established (Hecht, 1995: 1). One of the most prominent discussions within anthropological research into matters relating to Indigeneity sprung up in the 1980s under the overarching discourse on identity[5]. Key topics that advanced the intellectual debate towards the concurrent academic climate were *postcolonial critique* (Said, 2003[1978])*, cultural relativism* (e.g., Clifford & Marcus, 1986)*, cultural hybridity* (e.g, Clifford, 1988) and *gender and identity* (e.g, Butler, 1990; Strathern, 1988). These will not be utilised as tools for analysing the present material. The reasoning is not that identity is of little concern, it fundamentally is. However, due to space constraints, I have chosen to focus on matters leaning towards the human management of the environment.

Like most research into topics and issues related to the *Anthropocene*[6] (Crutzen & Stoermer, 2013), the paradigmatic shift in environmental awareness came from the Club of Rome's report *The Limits to Growth* (Donella H. Meadows et al., 2013).

The report alerted the world of an urgent need to start paying attention to the detrimental effects on the environment that the economic structure of the Global North has. A poignant advisory was that the longer we wait, the more drastic the necessary measures will become (ibid.: 107). Since its release in 1972, a complex matrix of environmental concern has evolved and captured the discourse in every stratum of society (commentary by Michael Egan in ibid.: 115).

The growing need for research into successful resource management that provide discernible solutions for the ongoing climate crisis is evidenced by the 2019 release of the IPCC's Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (Intergovernmental Panel on Climate Change, 2022). It states that Indigenous knowledge is important for climate change adaptation within the agriculture sector and that the needs and

[5] E.g., the deconstruction of notions such as the *nation, national identity* and *nationalism* ignited by Benedict Anderson's *Imagined Communities* (2016).
[6] A term proposed to denote a geological period of anthropogenic (i.e. human-induced) impacts in the geological data (Crutzen & Stoermer, 2013). With time it has developed into a "philosophical wrecking ball" (Emmett & Nye, 2017: 94) used to challenge economic growth and enforce the severity of the ongoing climate crisis (ibid.).

experience of farmers can be incorporated by the "promotion of farmer participation in governance structures, research, and the design of systems for the generation and dissemination of knowledge and technology" (ibid.: 514).

Carolina Alzate (et al., 2019) summarise the literature on the integration of Indigenous knowledge[7] into agroecological science. Agroecology researchers have enriched their understanding of socio-ecological processes, enhanced biodiversity conservation, and fostered social cohesion within Indigenous communities, thereby addressing critical challenges in agricultural sustainability and resilience.

Transdisciplinary agroecological research highlights the need to protect Indigenous sources of knowledge as they are at high risk of being erased. Moreover, the authors also describe the prominent applications of participative methodologies within the field and outline potentials for future research by, for example, anthropologists, joining forces with the natural sciences to further the investigation of Indigenous knowledge within ecological agriculture. Such work could deepen our understanding of the importance of Indigenous knowledge in sustainable land use and the multifaceted resilience that follows (ibid.: 345).

The most studied geographical areas for research on the intersection of Indigenous knowledge and ecological agriculture have been Latin America (e.g.: Bottazzi et al., 2014; Coq-Huelva et al., 2017; Diemont et al., 2006; Gallegos-Riofrio et al., 2022; Jacobi et al., 2015; Orozco-Ramírez et al., 2020; Saylor et al., 2017; Vallejo-Ramos et al., 2016) as well as Sub-Saharan Africa (e.g.: Bezner Kerr et al., 2019; Duvall, 2008; Gebru et al., 2019; Héger et al., 2023; Osbahr & Allan, 2003; Sahle et al., 2018).

One study I wish to endorse is Miguel Altieri and Victor Toledo's poignant overview of the early 21st-century agroecological revolution in Latin America, in which they identify the momentum of the peasantry movement's resistance to neoliberal policies and industrial agriculture (Altieri & Toledo, 2011). They emphasise the importance of the establishment of the international peasant organisation *La Via Campesina* in fighting for indigenous rights, food sovereignty and soil health. Furthermore, three facets of the agroecological revolution were identified as instrumental to the resilience of the peasantry: *energetic sovereignty* (the reasonable availability of communal energy sources like plant biomass), *technological sovereignty* (the ability to produce without external inputs) and *food sovereignty* (ibid.: 606-607).

Food sovereignty realigns values inherent to food systems and related policies from market demands and corporate interests to the aspirations and necessities of the producers,

[7] Referred to as *Traditional Knowledge* in their review.

distributors and consumers (Carolan, 2020: 182). Some authors suggest that the food sovereignty movement be seen as a type of *counter-hegemonic movement*, as it promotes decolonisation and the revitalisation of Indigenous peoples and their cultures as a form of resistance to the agro-political status quo (e.g. Figueroa-Helland et al., 2018).

The call for food sovereignty dovetails with the needs and aspirations of Māori in Aotearoa/New Zealand, which is mirrored in Mariaelena Huambachano's (2019) comparison of the Indigenous knowledge systems of Māori and Quechua–the Indigenous people of the Andes. Huambachano asserts that food sovereignty is a vital path for both groups to reaffirm their rights to self-determination and the enforcement of their relationship to their social and natural environment (ibid.: 5).

In a pilot study by Taima Moeke-Pickering (et al. 2015) we learn more about food sovereignty in the Māori context. They concluded that solutions brought forth by Māori were rarely acknowledged in the widespread conversation about food insecurity in Aotearoa/New Zealand and that Māori individuals, families and institutions should strive towards the revitalisation of a uniquely Māori-anchored food sovereignty through accessing their traditional foods and food systems (ibid.: 39).

Karyn Stein (et al., 2016) showcases the importance of ecological agriculture in Māori food sovereignty by highlighting its connection to the empowerment of Māori through reconnecting with their traditional environment (ibid.: 373).

That Māori have a unique and strong connection to the land of Aotearoa/New Zealand has been defined as a bifurcated phenomenon informed by both a spiritual and a socio-political consciousness (Lockhart et al., 2019). This is to say that Māori environmental regard comes from their desire for unity with nature as well as their socio-political aspirations of regaining the land stolen from them during the era of colonisation.

Another key article is by Byron Rangiwai (2018), who traced the spiritual aspects of te ao Māori to the unique relationship between Māori and the environment and sets the ignition for such an ecological consciousness at the concept of Māori genealogy, called *whakapapa*.

When discussing the outcomes of a study on an ecological agriculture project interfacing Māori beliefs, Mere Kepa (et al., 2021) posit that *te reo Māori* (the Māori language) activates spiritual reflections and connections in everyday life, relationships and practices for Māori. The authors write that "Māori people's attention is drawn to think of the Atua [Māori gods] and the ancestors as part of everyday living" (ibid.: 3).

This spiritual connection has deep connections to te ao Māori and *mātauranga Māori* (Māori knowledge) but also informs the dialectic relationship between Māori and Pākehā, best exemplified by the juxtaposition of te ao Māori and Western science (ibid.: 18). In their concluding remarks, the authors point out that environmentally friendly food production can be achieved when a partnership model between Māori and Pākehā is obtained, which honours mātauranga Māori and ecological agriculture perspectives like regenerative and organic farming (ibid.: 19).

These conclusions align with Harmsworth and Awatere's (2013) suggestions. They posit that the key to understanding the relationship between Māori and ecology lies in the unlocking of mātauranga Māori, te reo Māori, and whakapapa which all incorporate intergenerational concepts and values equally influential in contemporary and traditional Māori culture (ibid.: 274).

These studies show the growing proclivity towards research on the cross-section of Indigenous knowledge–which includes worldviews, beliefs and practices–and ecological agriculture. They also pinpoint the issue of food sovereignty as a key issue for Indigenous people, peasants and rural communities while also enacting a movement towards exploring and theorising alternative approaches to land use where the Western hegemony of scientific rationality is questioned and challenged.

This thesis could enrich the aforementioned research by employing comprehensive anthropological methodologies to delve deeper into the experiences, beliefs and practices of individuals involved in ecological agriculture infused with Māori worldviews. By ethnographically examining these phenomena we might be able to better understand the agency of food sovereignty and the motivators that underpin ecological agriculture.

Unearthing deeper conceptual connotations of Indigenous peoples' spiritual connection to the land can help translate socio-political dynamics into fruitful projects of partnership. As previous research has shown, the inclusivity of Indigenous perspectives can help in the mitigation of climate change. It has also been helpful in critically evaluating the hegemonic relationship of colonialism exemplified by Western science's often reluctant attitude toward alternative ontologies, like te ao Māori.

In the grand scheme of this field of research, we might be able to improve on policy evaluations regarding climate change mitigation and enhance our focus on a sustainable future for agriculture and land use in general and food production in particular. The unique potential for anthropology within this field is to show that the aforementioned benefits can be attained while also paying attention to, and involving Indigenous perspectives and voices.

An inherent position of this thesis flows from my attempts at building on the aforementioned literature and adding to the repository of challenging narratives to the Westernised mode of thinking which is underpinned by Cartesian dualism (P. T. Jackson, 2016). In other words, much of the decolonial research, and parts of environmental research–not least on the topic of the Indigenous knowledge systems/ecology nexus–relies on narratives that promote holistic and anti-patriarchal value structures. This paper, and the literature mentioned above, align with the philosophical undertone of perceiving humanity as a part of nature, not separate from it.

These value structures are well exemplified by Lesley Rameka (2018) who traced the historical developments of Māori perspectives on being and belonging. She concluded that notions of importance for many Māori, such as whakapapa, need to be supported in early childhood education to support the development of a sense of belonging for young Māori (ibid.: 376-377).

The most recent contribution of this type of decolonial research comes from Jo Smith and Jessica Hutchings (2024). They argue that Māori aim to "disconnect from our current broken food system" by enacting and revitalising an interconnected Indigenous food system as an alternative to the global neoliberal food system (ibid.). Their reflections and recommendations are very much aligned with the values espoused by my interlocutors as well as the presumptions and biases brought into this project by myself.

## 1.3 Disposition

This thesis is divided into three parts. Part I is dedicated to the Māori context and the background of the present study. Chapter 2 runs through the Māori mythology and history. The foundational document of Aotearoa/New Zealand, the Treaty of Waitangi–which has forged the relationship between Māori and Pākehā (non-Māori)–is presented. The concurrent bicultural aspect of Aotearoa/New Zealand that has grown out of the Treaty will briefly be introduced as well. The chapter concludes by tying the aforementioned to sustainable development and agricultural land use. Chapter 3 presents the framework that the analysis will utilise. Chapter 4 explains the methodology, fieldwork structure and discusses the ethical considerations of the study as well as how I chose to approach the issue of translation.

Part II focuses on presenting the ethnographic material that relates to land use. Chapter 5 introduces a selection of the study participants and relates their worldviews to their metaphysical relationship with their environment. Chapter 6 continues on this theme but

connects the physical elements of the participants' environment to the tangible dimensions of their beliefs and practices.

Part III pertains to the political dimension of the Māori-environment relationship as it is expressed within ecological agriculture. Chapter 7 introduces the notion of “Phase One” within ecological Māori agriculture, which I have dubbed *Cross-Pollination*. It covers a wide range of concepts and ideas from Māori-specific *kai* (food) *sovereignty* to global movements such as *permaculture* and *Biodynamics* interspersed with my participants’ experiences of colonial repression, racism and Eurocentric ideologies.

Chapter 8 portrays my suggested description of the present situation within ecological Māori agriculture encompassed under “Phase Two” which I term *Diversification.* The chapter contains practical, philosophical and future-oriented actions which I encountered during my fieldwork. Together they exemplify the concurrent socio-political underpinnings of ecological Māori agriculture and how it relates to the Māori cause more widely in the bicultural context of contemporary Aotearoa/New Zealand. It primarily revolves around waste management and its connotations for *tino rangatiratanga* (self-determination) and kai sovereignty.

Chapter 9 offers a general summary with conclusions and discussions concerning the preceding analysis and ends with some remarks on future research. Chapter 10 contains the alphabetised list of references.

# PART I

*Contextualising Māori*

# 2. BACKGROUND

This chapter will offer a background and contextualisation of topics that are necessary to grasp if the research questions are to be answered adequately.

## 2.1 Māori History & Mythology

Māori are descendants of Polynesian peoples and had arrived in Aotearoa/New Zealand by 1300 CE (Royal, 2005b). What is known from historical accounts about the days pre-European settlement is that Māori approached land use communally rather than in private ownership and that a mixture of crop cultivation–e.g. *kūmara* (sweet potato), hunting–e.g. seals or the flightless *moa* bird, fishing–e.g. shellfish, and foraging of natural foods like berries and roots were all important for the food supply (Hall, 2021: 339–340; Royal, 2005b).

At this time, Māori culture was oral and centred around small autonomous sub-tribes called *hapū,* frequently waging wars against each other. Gift exchange, trade, carving and polygamy are known features of early Māori culture (Royal, 2005b).

It is important to recognise that when speaking of Māori beliefs, customs, values, and practices, we are first and foremost talking about traditions that have evolved over millennia, and continue to develop. This continuous transformation is incorporated into the lives of individuals in a myriad of ways. As such, I choose to denote the plurality of Māori *worldviews* rather than a singular homogeneous worldview. These worldviews are products of a plethora of influences ranging from cosmogony, cosmology, mythology, religion, historical and socio-political developments (Harmsworth & Awatere, 2013: 274).

In a simplified way, whakapapa (genealogy) consists of four layers of ancestral lineage: 1) The Cosmic Layer, i.e. the becoming of the Universe, including *Te Kore* (the void), by the supreme god *Io*; 2) The Creation Layer, i.e. the Māori creation-story of the Sky Father and the Earth Mother; 3) The Mortal Layer, i.e. the birth of the first human by Hine-Ahu-One and 4) The Post-Migrational Layer, i.e. the lineages traced back to when Māori arrived at the shores of Aotearoa/New Zealand from the mythical home of *Hawaiki* (Scribe Ltd, 2003). It is not yet determined whether or not Hawaiki is entirely mythical or refers to a physical location, but according to Māori lore, it is the place where all living things were created, and where they will return once they die, the home of the supreme god *Io* (Royal, 2005a).

In Māori lore, existence began with a void, called Te Kore. Ranginui, the Sky Father, and Papatūānuku, the Earth Mother were the first beings, and they both came from Te Kore.

Ranginui and Papatūānuku had children, but always held each other in a total embrace. Their embrace did not let any light through. Tired of the darkness, one of their children, Tāne Mahuta[8], pushed his mother Papatūānuku away from his father and this allowed the first light to enter the world, and began the first dawn (The Office of Māori Development, Otago University, n.d.b).

Tāne is the *atua* (deity) of man, the forest and all things living in it. Upon the first dawn, he breathed life into the earth and created Hine-Ahu-One, who is considered the mother of all humans. Hine-Ahu-One was impregnated by Tāne with the first human but was not Tāne's first sexual encounter. Tāne's previous engagements had spawned the flora and fauna of the earth (Rangiwai, 2018: 640).

## 2.2 Te Tiriti / The Treaty

Before the first settlers from Europe arrived in the early 19th Century, the Māori *iwi* (tribes) and the hapū sub-tribes had claimed every corner of Aotearoa/New Zealand.

With the settlers came Christian missionaries. The introduction of new technologies like the musket, literacy and transportation quickly escalated into decades worth of upheaval and conflicts, reaching the apex in 1840 with the signing of *Te Tiriti o Waitangi*[9] (the Treaty of Waitangi) (Royal, 2005b).

Te Tiriti was signed by roughly 500 Māori chiefs alongside representatives of Queen Victoria of England in the mutual interest of introducing intertribal peace and a constitutional basis for establishing British law and government. The English version differs from the Māori version in the article regarding land sovereignty with the Māori version acknowledging the Māori chieftainship of Aotearoa/New Zealand in contrast with the English version where they ceded sovereignty to the Crown[10].

After signing Te Tiriti, the UK Government started selling off Māori land despite Māori resistance. This was furthered by the introduction of the Native Land Court, which imposed private ownership on the 80% of land still owned collectively by Māori at the time. This eroded centuries of socio-political structures and stifled Māori agricultural development (Hall, 2021: 341). The Māori population of the mid-19th Century lost millions of acres of land partially due to the Native Land Court (Royal, 2005b).

[8] "Tāne" for short.
[9] "Te Tiriti" for short.
[10] Taken from "*The Treaty in brief*" (https://nzhistory.govt.nz/politics/treaty/the-treaty-in-brief)

## 2.3 The Māori-Pākehā Relationship

By the 1940s the relationship between European settlers and Māori were primarily that of the latter being domestic servants and casual farmworkers in the service of the former. As evidenced by David Hall (2021), the concept of communal rather than private ownership of land had prevailed within Māori culture up until this time (ibid.: 343).

When the 1960s came around, less than 5% of farms were run by Māori. The socio-political backwater experienced by Māori eventually led to outward protest against colonialism. In 1975, the government responded to the amassing protests by establishing the Waitangi Tribunal to address the potential breaches of Te Tiriti (Hall, 2021: 345; Royal, 2005b).

The findings of the tribunal have led to settlements that return land assets to Māori tribes (Royal, 2005b), but also more recently involve complaints regarding Crown authorisation of land-related policies and regulations such as allowing the use of pesticides and herbicides on Aotearoa/New Zealand soil (see Te Waka Kai Ora, 2022).

Hall (2021) emphasises the friction between the Federated Farmers of Aotearoa/New Zealand and Māori when it came to Te Tiriti settlements, as both had vested interests in land ownership and land-use regulations. The Federated Farmers drafted a policy in the mid-1990s that essentially probed the Government to compensate Māori for past grievances but without violating Pākehā property rights (ibid.: 346-347). As Hall points out, “Individual claims could have devastating effects on farm business, with plunging property values and loss of equity, and were clearly too disruptive” (ibid., p.349). This view was generally shared by Māori claimants too and rarely, if ever, were Tribunal claims actively attempting to inflict new injustices.

The friction between the Federated Farmers and the Tribunal correlates quite well with the modern-day Māori-Pākehā relationship in general. As Julie Park and Katheryn Scott (2002) offer, farming, especially pastoral farming is by and large a Pākehā pursuit and as such, entangled with the Pākehā identity. Conversely, the Māori identity is characterised by a pluralistic approach to land use which encompasses, e.g., residence, subsistence farming and forestry (ibid.: 522-523).

A key aspect of the Māori-Pākehā relationship, from a Māori point of view, is the survival of colonialism through everyday racism where the communal, plurality-based culture of Māori is at best ignored, and at worst outright disrupted, penalised and undermined by both Pākehā as a group and by the Government. The Whakatika Report on Racism found that 93% of Māori felt that racism affected them on a day-to-day basis (Smith et al., 2021: 9).

*Matike Mai Aotearoa*, a Māori initiative working toward constitutional transformation leading to Māori inclusivity and sovereignty states outrightly in their report on the current state of the constitution of Aotearoa/New Zealand that they, “[D]o not consider in any great detail the contrary views that the Crown has maintained since 1840, and especially its presumption that Iwi and Hapū ceded sovereignty in Te Tiriti. We simply note that *they have always been at odds with Māori understandings*.” (Matike Mai Aotearoa, 2016: 8, author’s emphasis).

## 2.4 Governing Biculturalism

The socio-political progress that found its impetus in the 1970s is often termed the *Māori Renaissance*. This movement has managed to establish a Māori-language education system, taking leading roles in major industry projects connected to fishing, aquaculture and agriculture. Māori-owned media outlets are common nowadays and the booming tourist sector is paying heed to the value of Māori integration. Political representation has increased and overall, the modern-day Māori cultural momentum continues (Royal, 2005b).

One early and pioneering effort in the struggle to realise a new paradigm of inclusivity for Māori was led by Moana Jackson, who in 1987 challenged the criminal justice system and the extant research into the overrepresentation of young Māori males in the courts and prisons. He worked towards a new framework where Māori perspectives were included in all levels of society, government, legal apparatus and educational institutions alike (Jackson, 1987: 10–11). He proposed that the root of many problems in Aotearoa/New Zealand could be traced back to the enforcement of *monoculturalism*, i.e. the direct incorporation of English common law, upon a bicultural reality where two perspectives ought to be represented. Failing this dual perspective approach, negative stereotypes would not only be reinforced but realised in an ever-escalating manner (ibid.: 11-12).

One of the dimensions that is most relevant to this study and which also exemplifies the complex governance of a bicultural society like Aotearoa/New Zealand is that of land use and land ownership. To understand the situation for Māori within land use and land ownership, a description of the *land tenure system* is necessary.

Some key points, provided by Tanira Kingi (et al., 2023), are that generally, Māori neither live nor sustain themselves from their ancestral lands. The translation of the Māori tradition of communally owned land into the Westernised legislative system of Aotearoa/New Zealand has created a huge influx of owners per land title. To manage land with a majority of absentee owners, government-sanctioned entities, i.e. *land trusts*, have been established. This

has led to higher costs and more cumbersome administration for Māori land compared to Pākehā equivalent as the latter generally operates on land owned by the farmers themselves, as is the case for most pastoral farming (ibid.: 248-249).

The growing awareness of climate change's impact on land use-related activities aligns with the drive towards the integration of Māori perspectives in government policy and regulations. Kingi (et al., 2023) argue that the "[g]rowth of the Māori agribusiness sector requires the integration of science and Māori knowledge systems while also adhering to iwi/hapū expectations of environmental sustainability" (ibid.: 250).

An important factor of this is the role of Māori perspectives as a counter-balance to the tendency for a unidirectional approach to land use that fails to take alternative values into account, e.g., spiritual beliefs, family-oriented goals, financial prospects or environmental preservation (cf. Wright, 2021). Most government projects in Aotearoa/New Zealand promote the sustainability aspect of land use and have divisions involved specifically in Māori relations (e.g. Ministry for Primary Industries (MPI), 2023).

## 2.5 Sustainable Development

Before heading into land use, a quick note on the state of climate change and environmentalism is due. Anthropogenic climate change, e.g. global warming that originates from human activities, is attributed in large to the burning of fossil fuels, but the core of the issue is that humans emit excessive amounts of greenhouse gases which increase the greenhouse effect, i.e. raising the global temperature (for an in-depth review, see NASA's website on climate change).

Agriculture is responsible for a large amount of these greenhouse gas emissions. In Aotearoa/New Zealand, almost half of the emissions are attributed to agriculture (Ministry for the Environment - Manatū Mō Te Taiao, 2023). With 86% of agricultural emissions coming from livestock's methane emissions, farmers in Aotearoa/New Zealand, not entirely unlike their counterparts in countries all over the world, are facing immense challenges and unprecedented pressure to adjust in the face of growing environmental concerns (Kingi et al., 2023: 259–260; O'Sullivan, 2024).

To get a better overview, Figure 1 illustrates four approaches to sustainable development. The upper layer is characterised by approaches that emphasise the importance, indeed the *need* for technological innovation for climate change mitigation and sustainable

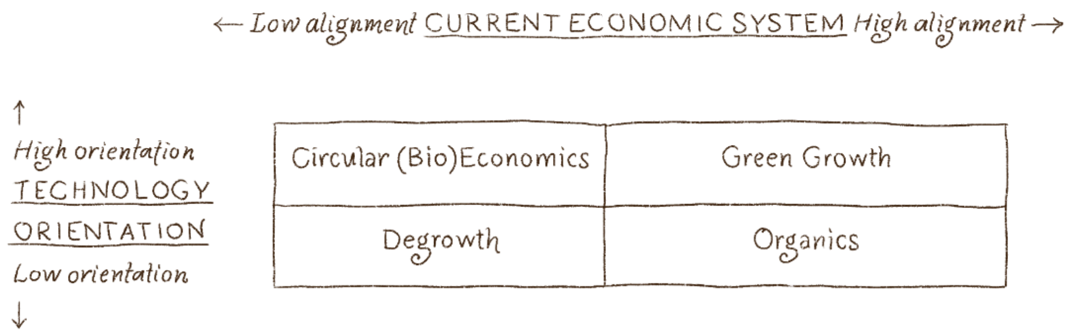


**Figure 1.** Sustainable Development Quadrant.
Vertically, categories increase or decrease in their technological orientation.
Horizontally, categories align more or less with the current economic system. Drawing by Chelsea Bognuda Carlsson

development. In opposition, the lower layer belongs to approaches that de-emphasise the need for technology. Instead, they explore ways of working to lower energy dependence, irrespective of the source of the energy.

Looking at the left/right spectrum of the quadrant, we instead move from alignment to the current economic system. The left-hand side represents ideas that question or even seek to replace the neoliberal globalist capitalism as spearheaded by the US Government, the World Bank and IBF (Lewellen, 2002: 9). Conversely, the right-hand side either seeks to continue, reinforce or simply accept the concurrent geo-political status quo.

When we look at this quadrant from the perspective of land use, four approaches espouse ideologies that correspond to the above. Namely, Circular (Bio)Economy, Green Growth, Degrowth and the Organics movement.

Starting with the Circular (Bio)Economy, a concept that is gaining traction in both Aotearoa/New Zealand and the European Union (Chapter 9, Ministry for the Environment - Manatū Mō Te Taiao, 2022 and Fetting, 2020: 13, respectively). The term consists of two adjacent but distinct projects.

The first part is derived from the economic model called *circular economy* in which resources and products are valued by the length they can remain within the system (Foschi et al., 2023: 19–20). The second part comes from the *bioeconomy* concept which aims at replacing fossil fuels with renewable energy and promoting other innovative technologies (cf. Cristofoli et al., 2023; Feleke et al., 2021).

A circular economy does not *per se* limit the type of energy sources utilised within that economy. As such, to drastically reduce carbon emissions from fossil fuels, the bioeconomic model is a necessary component in the Circular (Bio)Economy concoction.

However, critics say that the way government-led discourse on the transition into a bioeconomy is presented differs from the original intent of the term in such a way that it becomes transformed into a model with higher alignment with the current economic system (Vivien et al., 2019). This is all to say that the Circular (Bio)Economic project is, theoretically, in low alignment with the neoliberal capitalist machinery but at the same time highly dependent on future innovations within biotechnology, e.g. genetic engineering (Dinica, 2021). But in practice, the trend suggests that circular (bio)economics, when applied, belongs in the next category of the quadrant in Figure 1: *Green Growth*.

When combining faith in future innovations with faith in the current economic system's ability to solve the climate crisis, one gets the type of sustainable development commonly advocated by politicians in power, representatives of major corporations and the so-called "financial elite" (for an in-depth review, see Barnes, 2006).

Stepping down the quadrant we get to the Organics movement. As a reminder, this category maintains high alignment with neoliberalism but does not require technological innovation to pursue sustainable development. Organic farming is criticised for following many of the problems inherent to conventional industrial farming. Firstly, their reliance on a monoculture approach over biodiversity, which means that they generally focus on one or a couple of plants over a multitude. Secondly, organic farms' dependence on external inputs for fodder, fertilisation and energy to name a few.[11] An additional problem for organic farming is the dependence on certification seals that are sometimes designed for the benefit of agricultural export rather than the individual farmer and their local community (Altieri & Toledo, 2011: 588).

This brings us to the lower-left and final category of the quadrant: *Degrowth*, which challenges the current economic system while adopting a low orientation to technology. This is where the ecological agriculture that I am interested in is found. In a way, this category is part and parcel of this paper, as such, it would be appropriate to afford this category a subchapter of its own.

[11] Altieri and Toledo (2011: 588) stress that even if the inputs are fine-tuned and improved the dependence will prevail as long as monoculture and export foreground the ecological benefits (cf. Basweti et al., 2018).

## 2.6 Ecological Agriculture

To nuance the discussion on ecological agriculture vs agroecology, the political dimension needs clarification. Agroecology is an approach to land use that utilises the science of ecology within the practice of agriculture to reach an environmentally focused, sustainable farming method (e.g. Cattaneo et al., 2018). It does not have an explicit political agenda. Ergo, equating ecological agriculture with agroecology would make it problematic and outright misinformative to position it within the Degrowth approach to sustainable development.

The Degrowth approach is not limited to land use, or even sustainable development, and is perhaps best imagined as a collective critique against the pursuit of *perpetual economic growth*, which proponents of the movement's ethos say is "causing human exploitation and environmental destruction"[12]. Still, the human element and the environmental elements are fundamentally intertwined.

The view of technology within the Degrowth approach overlaps with agroecological approaches in Latin America which Altieri and Toledo describe as non-standardised models born out of the in situ participation of farmers and local communities, informed by the local socio-economic needs and ecological reality (Altieri & Toledo, 2011: 598).

Some relevant examples of ecological agriculture that harmonise with the Degrowth approach are *permaculture* and *biodynamic farming*.

Permaculture was a concept of agricultural design focused on perennial plants developed by David Holmgren and Bill Mollison in the 1970s with the publication of *Permaculture One* (Mollison & Holmgren, 1978). Their intent was for human land use and habitats to be sustainable and mimic nature's ecosystems concerning patterns and relationships. They wanted to educate people about nature so that people could 1) design human spaces that work with nature rather than against nature, and 2) reduce dependence on industrial systems of production (McManus, 2010: 162). The two authors' contributions to this concept, alongside a wealth of peripheral adopters' publications on the subject, have led to the concept being hard to force into one easy-to-digest formula (Leahy, 2021: 2). But already by the late 1980s, Mollison had widened it to include more or less any kind of technology utilised by and/or for mankind (ibid.: 8).

Biodynamic farming is a farming method that today is arguably most famous within wine production. In Aotearoa/New Zealand there are only 10 officially and publicly certified biodynamic producers, half of them are wine producers and the rest offer other types of farm

[12] Taken from degrowth.info.

produce (Biodynamics New Zealand, 2022). Biodynamic farming is essentially the first version of organic farming to be developed in Europe. It was initiated in the 1920s by philosopher Rudolf Steiner as a reaction to the widespread use of inorganic fertilisers in the agricultural sector and the consequential degradation to the soil it brought with it.

Similar to permaculture, a foundational aspect of biodynamics, is the holistic nature where the project at hand is to be imagined and functional in all its intents and purposes much like an organism or an ecosystem. What sets it apart from both permaculture and organic farming today is that Steiner infused the practice with his esoteric worldview *anthroposophy* and emphasised the need to follow “cosmic rhythms”, e.g. the motions of the moon, sun and stars to yield beneficial results (Rigolot & Quantin, 2022: 2).

Having introduced and contextualised some of the relevant background information for my study, the next chapter will focus on the analytical framework used for the ethnographic material.

# 3. ANALYTICAL FRAMEWORK

The major part of my analytical framework originates from anthropologist Eugene N. Anderson's seminal work *Ecologies of the Heart* (1996). In his book, Anderson investigates Indigenous knowledge systems' connection to environmental resource management.

The epistemological and ontological presuppositions that I bring into the conception, design, analysis and writing of this thesis are also important to lay out for the reader as to be completely transparent regarding my biases, choices and interpretations of the information shared with me by my interlocutors but also to how I have presented it here.

The choice of Anderson's framework comes from personal convictions that align with those espoused in his text. I believe that we need to synthesise a new way of life and restructure human society in the Global North. I also believe that coercion is counterproductive and that diversity leads to better problems[13] than monocultures–regarding agriculture and human culture alike.

My experience of travelling around the world has convinced me that generally, people take Indigenous perspectives into account far less than necessary to produce a sustainable route forward for our species. But enough with reflexivity, let me present Anderson's theories.

In an attempt to clear up some confusion about how traditional societies' ability vs inability to manage their local environment, Anderson (1966) posits that successful resource management always comes from the successful incorporation of emotionally powerful cultural symbols (ibid.: 166). These cultural symbols are most often but not by default, religious ones (ibid.).

Following in the footsteps of sociologist Émile Durkheim, Anderson conceptualises religion as, "the ritual representation of the community, and a device for sanctioning moral codes" (ibid.: 55). After years of research into *feng shui* in China, Anderson concludes that the power of this prescientific knowledge system of planning buildings, travel routes and grave locations alike can be explained as a corollary of being merged with the religious system and thereby benefit the emotional and social forces inherent to that system (ibid., 16; 26).

Anderson juxtaposes economics and ecological anthropology in the interest of emphasising his epistemological presuppositions, effectively putting a demarcation between his work and the traditions following Cartesian dualism, i.e the separation between nature and

[13] By which I mean that the problems can be easier to solve, and are not necessarily long-lasting problems.

the human mind, e.g *neopositivism* (P. T. Jackson, 2016: 42). As an example, he brings up *externalities*, a typical label radiating from economists' explanatory models, even if they are not always included in the actual calculus. In stark contrast, Anderson states that for the anthropologist, there is no such label and that "[n]othing produced or consumed on earth is an externality" (Anderson, 1996: 85) but rather everything related to the subject of inquiry is to be considered (cf. holism acc. to Eller, 2016: 10).

In addition to Anderson's framework, I will apply other frameworks to deepen the specific Māori context. The most relevant is the colonial aspect. Applying a decolonial lens when looking at Indigenous populations' resource management is necessary as Indigenous peoples' interaction with their environment is a complex web of emotions, relationships and political aspirations.

The framework offered by Garth Harmsworth and Shaun Awatere (2013) will offer a decolonial perspective on how Māori relate to resource management. They inform us that Māori reject the idea of having their cultural values boxed into a dichotomy where their aspirations are either tangible or not tangible, monetary or non-monetary and use or non-use. The authors also identify Māori aspirations as among others, increased involvement for Māori in decision-making, strengthened cultural identity and protection and management of environmental and cultural resources by the implementation of Māori concepts such as *kaitiakitanga* (guardianship/stewardship) (Harmsworth & Awatere, 2013: 281).

The *Māori ecosystem services framework* suggested by Harmsworth and Awatere emphasises that "Māori cultural values" exist on a spectrum of material and non-material values that includes provisioning, regulating, and supporting while upholding sacred values and customs (ibid., p.282).

Furthermore, the links between the environmental movement in Aotearoa/New Zealand and the Māori population demand a preemptive explanation of the concepts of preservationism and conservationism.

In his description of the permaculturist view on environmentalism writ large, Terry Leahy (2021) lets one of his interlocutors exemplify with a polemic take on conservationism as "yuppies taking their golden retriever for a walk [...] they largely are about protecting natural areas for the sake of voyeurism" (ibid: 139).

That is incompatible with the conservation espoused by Anderson which requires "first, that most people develop some form of environmental morality and, second, that the political process accommodates environmental goals." (Anderson, 1996: 13).

Even though preservation and conservation are distinct environmental practices, from the point of view of Māori and the colonial history of Aotearoa/New Zealand, the voyeurism and preservation are treated at the same face value (cf. Delahunty, 2020). I argue that Anderson's conservationism is not to be mistaken for either voyeurism or preservation.

The influence of author and food activist Jessica Hutchings on the analysis of this thesis has been profound. Her texts on the Māori stance against genetic engineering and the role of *kai* (food) *sovereignty* have been instrumental in the genesis of this project. Her latest article (Smith & Hutchings, 2024) helped me bridge the general political idea of myopia proposed by Anderson (1996) and the specific cultural myopia found in Aotearoa/New Zealand.

Her personal experiences of co-opting permaculture and biodynamic farming with Māori traditions, customs and worldviews were shared during a webinar on waste management (Para Kore Media, 2021).

Additionally, her contribution to a webinar on food system security and resilience (Resilience National Science Challenge, 2024) has been influential in relating Māori traditions and worldviews to experiences of colonialism, racism and the aspirations for *tino rangatiratanga* (self-determination) and kai sovereignty.

As such I would argue that Hutchings has added depth to my analytical framework with her own research while also exemplifying the movement that I propose in this thesis with her personal stories.

# 4. METHODOLOGY

## 4.1 Patchwork Ethnography

My methodological approach to this fieldwork is in stark contrast to traditional fieldwork. By traditional fieldwork, I refer to anthropological textbook classics in the vein of Bronislaw Malinowski's Argonauts of the Western Pacific (1922). The followers of this school tend to emphasise long-term and often solitary fieldwork, focused on participant observation (Mcgranahan, 2018: 2–4).

In contrast to the above, my method follows relatively recent trends and developments[14] in ethnography that followed the impact on anthropological fieldwork during the global lockdown measures during the COVID-19 pandemic (Günel et al., 2020). The term *patchwork ethnography* encapsulates my approach and outcome in the field. Succinctly described by its instigators Gökçe Günel, Saiba Varma and Chika Watanabe, patchwork ethnography encompasses "short-term field visits, using fragmentary yet rigorous data" (ibid.).

They also take the researcher's private circumstances into account. Factors such as family obligations or precarity are valid and potentially enriching dimensions analytically too. Patchwork ethnography stands out from other contemporary ethnographic alternatives to traditional fieldwork because the methodological choices come from the researcher's–rather than the research subject's–circumstances. This is achieved without renouncing preceding principles of feminism and decolonialism within anthropological methodology (ibid.).

## 4.2 Fieldwork Structure and Material Processing

My fieldwork in New Zealand began in November 2023 and concluded in February 2024. Effectively it amounted to three full months in which I managed to get to know ten individuals, briefly converse with a dozen additional people and visit four farms and one eco-village. The structure of my fieldwork was a bricolage of participation, observation, conversations[15], semi-structured interviews and online research. It was a mix of outdoor and indoor and a few interviews were conducted either over the phone or online via video conference.

[14] Developments which in turn can be seen as a progression of George Marcus' *multi-sited ethnography* (1995).
[15] In this case, I refer to the "conversation as method" that Margaret Kovach (2009: 124) advocates, which attempts to let the research subject steer the narrative even more than in traditional semi-structured interviews.

Among the people I met, I count five as primary participants as they provided a significant amount more information to the study than the others, they were also the ones I had the most interaction with throughout my fieldwork.

Out of these five, three identify as Māori and the other two as Pākehā (non-Māori) and all were small-scale farmers who expressed some form of Māori connection to how they tend to their land. The so-called "peripheral participants" were café workers, preschool teachers, a primary school principal, a mechanic, a carver, a security guard, two public servants[16], an art student, an art exhibition curator, a scientist, and a couple of market garden workers. The vast majority identified as Māori.

Many participants from both categories were found as a result of the snowball effect, i.e. the conversation with one participant led to being recommended to talk to the next. Otherwise, the peripheral participants were mainly casual encounters. With these people, most conversations lasted for half an hour to an hour. The primary participants were contacted in advance and the interviews were all spanning one to two hours in total per person. Additionally, I collected empirical data online from social media, news outlets, company websites, governmental websites, conferences and "webinars" (online seminars).

The geographical areas of my fieldwork are highlighted in orange in Figure 2, and include the regions of Wellington, Manawatū-Whanganui and Waikato although the concentrated efforts stretch the area between the city of Wellington and the rural town of Levin, also known as the Kāpiti Coast. The four farms that I visited were:

- One four-and-a-half-hectare farm in the Waikato region that started in 2010;
- One fifty-hectare farm in the Manawatū-Whanganui region that started in 1985;
- One four-hectare farm in the Manawatū-Whanganui region that began in 2023;
- One half-hectare farm in the Manawatū-Whanganui region started in 2023.

[16] One works for the EPA (The Environmental Protection Agency) and the other for the MPI (The Ministry for Primary Industries).

**Figure 2.** Map of Aotearoa/New Zealand, areas involved in my fieldwork are outlined in orange.

All interviews were recorded on a portable recording device and later transcribed[17] manually onto my computer after which I indexed and coded every sentence into themes. This method was applied to online materials–i.e. webinars and video conferences uploaded on YouTube, blog posts, news articles and websites–as well.

Note-taking, diary-writing and photography were three invaluable additions to my aforementioned techniques of collecting material as they all aided in capturing aspects of the fleeting moment that I would not recollect when separated from the field during the stage of the analysis. Many of the photos and notes were added to the indexing and coding process to add depth to various concepts and ideas that I uncovered in the field.

[17] The two longest interviews were turned into *précis* (cf. Blommaert & Jie, 2010: 68) and the rest were transcribed in full.

## 4.3 Methodological Discussion

Having brought my wife, our baby and our toddler along I was forced to work around family obligations and coordinate visits to places of interest in a manner that more often than not was challenging. From a methodological point of view, the challenges of conducting fieldwork alongside my family could be interpreted as counterproductive. However, I believe that I gained the trust of the participants more efficiently by involving my family in the field. I remain convinced that the first encounter with me in the role of a father with children rather than as a solitary white male researcher facilitated the initial rapport I experienced with several of the interlocutors. Alas, this has to be partially attributed to the topic I was investigating. It would be tantalising to suggest a generalisability of this aspect of my methodology.

Margaret Kovach (2009) offers advice to Western academics interested in conducting research with Indigenous individuals and/or communities and reminds us that colonial relationships persist inside such institutions as universities (ibid.: 28). My methodology has been influenced by Kovach's concept of *Indigenous methodologies* (ibid.: 20).

There are three fundamentals of this approach that I have incorporated into my methodology. Firstly, to try and incorporate the Indigenous point of view by allowing their narrative to take precedence over the research questions during large portions of the conversation (ibid.: 124). Secondly, to not attempt a pan-Indigenous analysis as this type of generalisation homogenises tribal stories, practices and beliefs in ways that further the colonial damage and ignore the complexity of Indigenous cultures (ibid.: 37). Thirdly, to maintain a decolonising agenda. This is ethically and morally paramount and often counts as a *sine qua non* of Indigenous inquiries (ibid.: 81).

## 4.4 Ethical Considerations & Reflexivity

It is always important to acknowledge that it is not the right of a researcher to interrupt and examine the life of any person without their consent. Every participant in this study was informed about the purpose and aim of my thesis as well as their right to revoke their participation at any time.

However, the additional responsibility of a Western researcher, such as myself, involved in Indigenous-based research is to reflect on the myriad of ways that the research itself can have damaging results on the community or individuals participating (Kovach, 2009: 85).

In the context of the fieldwork undertaken for this study, an example would be that Māori cultural values tend to cross and go beyond Western dichotomies such as monetary vs non-monetary and use–as in material purpose–vs non-use (Harmsworth & Awatere, 2013: 281). Ergo, it would further the colonial oppression of Māori ontologies if I compartmentalised the experiences of my interlocutors into such a dualistic framework.

Kovach brings forth a point from Māori scholar Graham Smith, who underscores the importance of acknowledging the need to give back to the community involved in the research (Smith in ibid.: 149). Historically, the relationship between Western research and Indigenous populations has been fundamentally exploitative. The egregious extraction of knowledge stops with decolonial, reflexive and collaborative research and opens the possibilities to a reciprocal relationship.

In most encounters, I was able to provide some form of reciprocity for the time and effort expended by my interlocutors. A few examples would be that I was able to fix the computer of one participant and that I helped out with the weeding and cooking for another. Subsequently, all participants have been allowed to comment and review their contributions before the final publishing of this paper. Let me now offer some insights into my biases.

Firstly, I believe that I to some degree managed to counter the hegemonic shadow thrown over my presence in the field as a white heterosexual male researcher from Sweden. My theory as to why I escaped the common pitfalls of this category of research is largely thanks to embodying the undertone of the patchwork ethnography framework.

I attribute this to my failure to conform to the male stereotype in Aotearoa/New Zealand, the so-called "Kiwi bloke" character who lives for beer and rugby (Law, 1997). By showing up as a caretaker of children first, and a researcher second, my masculinity could be held in a liminal space where I could infuse it with my beliefs and background before being predefined along archaic understandings of sex roles[18]. My philosophy, spiritual convictions and political stance are, needless to say, not to be deduced from my combination of ethnicity, sexuality and gender identity.

I believe that I am part of the environment, not separate from it. I also believe that we should find ways to limit our growth as a society, from the perspective of perpetual financial growth. I think that we should decentralise political power, severely constrict the reach and influence of the private sector and foster a new social structure built not on technological dependence but on human connections. I do not mean to say that my ideal society lives

[18] "Sex roles" are not the most effective tool for representing social reality and risks enhancing differences between the sexes (Connell, 2005: 26)

without technology, just that I value non-material technologies on par with material ones, which I feel is atypical of the modern Western mindset.

I stand on the side of Hutchings (2024, 14:27-14:58) when she rebukes the notion of a neutral observer who objectively gathers pure knowledge without bias. Analysing the human-environmental relationship can be performed rationally. Crafting a purpose for a research project should include an emotional dimension, a need, a curiosity, or an affection for an issue or phenomenon. Human interaction can be wholly irrational[19].

In a text that combines and presents a mix of all three, the emotional and philosophical underpinnings of my approach to this subject, cannot be separated from the presentation and interpretation of the material. I hope I offer a human perspective on how to approach humanity's collective future, rather than stating cold facts in an opaque manner.

The phrasing of a question can mask a denial of Indigenous ontologies and show ignorance of Indigenous epistemologies (Kovach, 2009: 12; 21). As far as this connects to the so-called “ethnographic present”, I concur with Kirsten Hastrup (1990) when she states that describing cultures in textual form, necessitates external categories to that very culture (ibid.: 53).

I continue her prescription to the issue by underlining here that my stylistic approach to narrating the ecological Māori agriculture movement in the present tense is not an attempt at generalising the experiences encountered in the field. As Hastrup writes, “The truth discovered has neither a firm future nor a distinct past” (ibid.: 50).

## 4.5 Translation

When discussing the translation of Māori concepts into English, Harmsworth and Awatere recommend a careful approach where common grounds ought to be the goal. However, they caution against the tendency to put equal signs between words like “kaitiakitanga” and “stewardship”. This decontextualises the Māori concept to such a degree that the action-ridden intent behind the original meaning is precluded in its translation. Kaitiakitanga cannot be assessed apart from the concepts of whakapapa, *mana whenua* (land authority) and *rangatiratanga* (sovereignty).

In this thesis where the subject is intended for an international audience with potentially no previous knowledge of Aotearoa/New Zealand and Māori culture, translation cannot be excluded. It has to be incorporated into a reflexive analysis on behalf of the researcher.

[19] I.e, based on emotions and reactions rather than rational calculus.

I spent many hours developing as good an understanding as possible of *te reo Māori* (The Māori language) before my fieldwork. During, I had the opportunity to join in on an introductory class for Māori. Still, I have to stress that I have accumulated a minimal vocabulary below the rudimentary level. Most translations come from various sources but all have been cross-referenced online[20].

At this point, I wish to offer two additional words that are relevant to the Māori culture in the context of my research. They are *whenua* (land) and *whānau* (family). To be able to better understand the complex web of relationships that flows through the collective Māori consciousness as it relates to the environment, it is paramount to bring the two words' parallel meanings along. Whenua also means placenta (Rangiwai, 2018: 640) and whānau also means giving birth (ibid.: 642).

The two bifurcated concepts are intertwined in a way that exemplifies Alf Hornborg's plea for maintaining the distinction between "Nature" and "Culture" (Hornborg, 2009: 95). As Hornborg posits, the ontological reality is that nature and culture are intertwined, but analytically, it can sometimes be beneficial to separate the material and the symbolic. I would argue that in the case of understanding the Māori connection to their land, one has to recognise the material and symbolic relationship as separate but interacting levels. Thereafter, the reality that has manifested across time and space can be assessed with a more nuanced bias.

In my experience, Māori rarely speak in terms of reductionism or determinism the way Western discourse often requires or at least normalises. That is to say that it is misaligned with Māori worldviews to aspire towards a perfect system of separation between things in nature for the sake of measuring and compartmentalising reality.

Ruth Irwin (2021) elaborates on this issue in great detail and states concisely, "In Māori, knowledge, language and thinking are not reduced to mere logical rationality. The way of language is immanent with the embodiment of entrails, placenta and land [...] Hyper-separation of land from the people, or objects from rational subjectivity, is not possible within the orientation of the Māori language." (ibid.: 317-318).

The implication is that translation is not sufficient for understanding, only a truly bilateral and transparent framework can provide the holistic model necessary for decisions and policies on sustainable resource management (Harmsworth & Awatere, 2013: 283). Hence, this thesis will introduce relevant Māori concepts while in tandem unpacking the holistic framework offered by the chosen analytical framework.

[20] E.g https://www.maoridictionary.co.nz/.

I have chosen to treat every chapter as a unit, by this I mean that when I begin a new chapter, all Māori concepts and words will be *italicised* with the translation in brackets, i.e. "*mōrena* (morning)". I have made this decision following careful consideration of the alternatives, and the reasoning behind not exclusively using the English translations is that such traditions build on colonial oppression of Indigenous cultures and languages (Kovach, 2009: 97), offering the English translation in brackets each time I use a Māori word would take up so much space in the text and result in a fatigued reader.

The opposite–English first and Māori in brackets–would only marginally improve the reading experience but would also demote the Māori word to secondary in importance whereas a major point of my analysis is that the Māori concepts are primary sources for understanding the issue at hand.

Bearing these concerns in mind, the golden middle path that I have chosen amounts to a linguistic short-term memory exercise at times as certain portions of the text require the invocation of multiple concepts that will not be constantly re-translated. The glossary will hopefully mitigate the onslaught of migraine.

On a methodological endnote, being ignorant of *te reo Māori* (the Māori language), *te ao Māori* (the Māori worldview) and Māori culture is perceived as offensive to Māori, if the person showcasing it is Pākehā (non-Māori) from Aotearoa/New Zealand. As a foreign researcher, however, I felt that it was expected and showing interest was welcomed and encouraged my interlocutors to share.

# PART II

## *Land Relations*

# 5. TE AO MĀORI / THE MĀORI WORLDVIEW

When I first started talking to people in Aotearoa/New Zealand about my interest in Māori and ecological agriculture, the two topics that people most frequently gravitated towards were food and cultural heritage. It is therefore my goal to represent these two topics as thoroughly as possible, but also to contextualise their meanings from the point of view of those who participated in my fieldwork. Both themes enact a sort of cultural tension for Māori and the oscillation between issues regarding food and issues regarding cultural heritage springs from the Māori relationship to land. Ergo, this will be our point of departure.

## 5.1 Karakia / Giving Thanks

The traditional Māori view of the relationship between humans and nature was that it was sacred, the notion of *tapu* (sacredness) carried the expectations that individuals would follow strict protocol before exploiting any part of the environment (Royal, 2005b).

When speaking to Kahurangi, a 27-year-old participant in my study, she said that this was a daily ritual for her and all her Māori friends to perform a *karakia* (prayer/spiritual guidance) before any involvement with the environment or even aspects connected with the environment. Describing the approach upheld by her martial arts community, she specified,

> Before they even go in the mara [garden] or go onto the awa or te moana, the river or the ocean, they do a karakia, for protection and even before they go out hunting or even like, right before it's brought out on the table and you're about to eat it, there is always a karakia.

Anderson tells us that grounding conservation behaviours in a religious context–such as the concept of making the interaction with flora and fauna a sacred endeavour that requires full compliance with religious protocols, like performing a prayer that evokes spiritual guidance going forth–acts as a device that makes people aware of the risks involved in the misuse of resources (Anderson, 1996: 11).

Needless to say, the cultural tradition of saying prayer exists in many religions and is expressed in multiple cultures that do not necessarily manage their resources in a future-oriented environmentally positive way. Anderson stresses that it is not that adhering to a religion *per se* equals "good" resource management, like ecological agriculture. Indigenous knowledge systems that have successfully managed resources over long periods all share the integration of emotional symbols that evoke feelings of belonging and integration between

people and nature (ibid.: 166). This promotes a natural inclination to treat the local environment carefully, benefiting both parties

## 5.2 Whakapapa / Genealogy

The Māori concept of whakapapa, as introduced in Chapter 2, connects people to the environment in such a way that it evokes a profound sense of family ties with the environment on behalf of the Māori. The union of the deity Tāne and his creation Hine-Ahu-One is the fundamental spiritual connection that shapes this relationship between Māori and their environment. Their genealogy puts them not only in direct lineage to the deities who created everything, but they consider themselves actual blood relatives to the entire ecosystem they inhabit (Rangiwai, 2018: 640; The Office of Māori Development, Otago University, n.d.b). Harmsworth and Awatere tell us the very same and add that it is through *te reo Māori* (the Māori language) that the understanding of whakapapa leads to a confluence of the Māori cosmology and their ecosystem (Harmsworth & Awatere, 2013: 275).

This also helps to make sense of the otherwise rather esoteric reflection by participant Anaha, "te reo contains the depth of communication on metaphysical layers of our whakapapa". In other words, the action of speaking their language reinforces–not in some philosophical sense, but as an embodied experience and simultaneously spiritual reflection–the connection between the individual and their whakapapa. Te reo ignites the emotional content of whakapapa which is the precursor to feeling aligned with both ancestors and the environment.

A manifestation of the intersection between language and genealogy is the term *ngā Atua* which is often translated as "the deities". It refers to the whole Māori pantheon and often specifically the children of Ranginui (Sky Father) and Papatūānuku (Earth Mother). The word *atua* however, has a second equally important translation which is "an ancestor with continuing influence" (Rangiwai, 2018: 645). This exemplifies the "metaphysical layers" from Anaha's musing and shows how the Māori language carries multiple anchoring points with both spiritual and environmental connotations.

It is no surprise then that language is treated by many as a *Taonga Tuku Iho* (precious inheritance), likened to an heirloom passed down through generations, (Harmsworth & Awatere, 2013: 275). Another example of such an heirloom is knowledge. The word for intergenerational Māori knowledge is *mātauranga Māori.* The knowledge of one's genealogy and also the knowledge passed down from one's ancestors are incorporated into mātauranga.

## 5.3 Mātauranga / Knowledge

In my fieldwork, I found multiple expressions of mātauranga. The concept of *mauri* is one such expression. Central to the understanding of how Māori approach non-human entities, mauri refers to the "life force" of all things. George, a 75-year-old Pākehā concurred from his own experiences working as a water resources engineer:

> A rock has mauri, you know? Of course, obviously a river does [...] I've worked with rivers and I think rivers are probably the most lifelike thing of anything which is physical. They are so dynamic, they are so changing and interactive and that sort of thing—you can see the life force of a river.

A slightly more complex definition is that mauri is located in each entity, such as a single tree, but also collectively in the whole forest. Like the ebb and flow of water, it can be enhanced or degraded on both levels. Harmsworth and Awatere inform us that traditional Māori knowledge professes that interactions with a specific entity can affect the mauri of adjacent entities and structures too (2013: 276).

As such the difficulties in fully comprehending the effect humans have on their environment *a priori* are acknowledged. When Māori interact with an object in the environment, they reflect upon the inherent mauri of this object and address the potential positive contra negative outcome. The aforementioned karakia is initiated to get spiritual guidance in such a decision.

I base the above reflection on Anderson's resistance to viewing Indigenous people as having an "inevitable tendency of [...] to live in such a pristine and visionary state" and that their relationship to nature is assumed to be harmonious (Anderson, 1996, p.26). Instead, the human experience shares features of success and failure in resource management throughout time and space. For Māori, the aftermath of overfishing, deforestation and overzealous hunting are empirical facts that have been successfully mitigated by connecting the individual and collective emotions to the conservation of the ecosystem they depend on.

Intergenerational knowledge, mātauranga, does not only carry information but also communicates values and behavioural guidelines (Harmsworth & Awatere, 2013: 275).

## 5.4 Chapter Summary

Daily expressions of spirituality can solidify the emotional content of the embedded moral code. For my participants, one such example is the karakia. It is a spoken form of gratitude and acknowledgement of the environment, the deities and the universe that precedes any

action taken regarding any form of extraction or interaction with nature. Like the Christian grace, it can be before eating, or before going into the garden to harvest vegetables or hunt.

The Māori version of genealogy, whakapapa, provides the most comprehensible building block towards understanding the Māori-environment relationship. Through their mythology, it connects them by direct bloodline to their deities, and by extension, the soil of their land. Their concepts and words carry epistemological modalities that turn their speech into an embodied expression of their relationship to the land. This comes from the semantic dualism often found in Māori words, phrases and concepts, i.e. that two different meanings coexist within one symbolic value.

Māori believe in mauri, a life force integral to all things, animate and inanimate alike. It is perceived within an individual object, like a tree, but also collectively within a whole forest. This interconnectedness translates into a type of cause-and-effect relationship where Māori can conceive of a spiritually anchored damage control. The negative or positive impact on the mauri of a network of objects, or its constituents, is a measurement of the effect of a given action. This knowledge is passed from generation to generation and is called mātauranga.

Aided by Harmsworth and Awatere (2013: 275-276) we can understand these concepts and aspects of Māori worldviews as instrumental in valorising all dimensions of their environment. Crucially, the apex of this chapter is reached by weaving the aforementioned concepts and worldviews into Anderson's (1996: 26) explication that Indigenous peoples are not different to non-Indigenous people by some preordained consciousness of "Nature".

The difference is the length and concentration of experience within a local environment, which tends to result in a sapiential repository of the local environmental conglomerate. The purpose is not intended to imply that everyone would be better off copying the Māori way of life or adhering to their worldviews, but that looking for sustainable routes toward a continued life on this planet for human civilisation, lessons from those who have stood the test of time should be acknowledged and inspire us going forward.

To learn such lessons, one has to analyse not only the belief systems of successful resource managers but also socio-political contexts and practical applications of their worldviews. The first has been analysed, the second takes place in the third and final part, and the third is the subject of the next chapter.

# 6. TANGATA WHENUA / PEOPLE OF THE LAND

*Tangata Whenua* means "People of the Land" and denotes the status of Māori as the official Indigenous population of Aotearoa/New Zealand with rights and responsibilities under *Te Tiriti o Waitangi* (The Treaty of Waitangi). The term was incorporated into law in the 1980s following the growing demand for the incorporation of Māori terminology in the legal system (Magallanes, 2010).

## 6.1 Tikanga / Societal Lore

The Office of Māori Development at Otago University (OMD, n.d.a) translates *tikanga* as "societal lore within Māori culture" and emphasises that the concepts within tikanga are omnipresent, yet within different *hāpu* (sub-tribe) and *iwi* (tribe), they may take unique expressions. As guidelines for behaviour, they are reminiscent of rules of conduct, but cannot be separated from their spiritual underpinnings (ibid.).

In Māori worldviews, the individual is ingrained in a conscious relationship with their ancestors, which includes the physical world and their cosmology. However, a lived experience of upholding tikanga and acknowledging the inherited *mātauranga* (intergenerational knowledge) requires awareness of the future.

As Mere Kepa (et al., 2021) underline, Māori food production has always been sustainable, long before notions of organic farming and chemical-free agriculture were professed in the 20th Century. Kepa lists multiple conducts of land use that were widespread practices for Māori farmers, most noteworthy being 1) no areas of land were considered "unproductive wasteland" so every plot of land had its role for the ecosystem to function; 2, only natural fertilisers were allowed when farming and 3) freshwater was respected and preserved for the wellbeing of all living things (ibid.: 15).

Kepa relates these parts of farming procedures to tikanga as they are expressions of "doing good things for mokopuna [grandchildren]" (ibid.). This is firmly embedded in the participant Frida's self-proclaimed raison d'être, which revolved around her children and the coming generations of Māori. That was what she meant whenever she spoke about her *mahi* (work).

Frida is responsible for four point five hectares of land, overgrown by gorse and blackberry. Her reason for running the land sustainably and aligned with tikanga is that she has *whakapapa* (genealogy) to the land, and she feels a deep sense of responsibility for the coming generations. She is obliged morally as well as spiritually, to leave something better

for them, and to show by doing that "the old ways" as she puts it, work and that it's the only real way to free Māori people from the chains of colonialism.

Kim, a Māori artist at the age of 23, offered her perspective and emphasised the immutability of tikanga, she did not believe that there would be much difference between her relationship to tikanga and that of a 23-year-old Māori woman living 200 years ago, "at least not on the inside and regarding things that matter", she said.

Conversely, Anderson reflects that the word "traditional" should not be misconstrued as synonymous with "unchanging". What makes Indigenous worldviews relevant for anyone interested in conservation, sustainability or environmentalism writ large, is specifically that they have changed over time (E. N. Anderson, 1996: 10).

But what Anderson does not explicate, but rather alludes to, is that practices may change in correspondence with empirical observations, but the underlying values that inform the actions may stay the same. That's how I interpret my participants' relationship to tikanga as far as it relates to land use. Kim was not trying to tell me that there was no significant difference between herself and a "traditional" Māori woman, but rather that the key to their tikanga was based on a similar foundation of care and respect.

## 6.2 Kaitiakitanga / Stewardship

As briefly mentioned in an earlier chapter, *kaitiakitanga* refers to guardianship or stewardship. It relates to the role Māori uphold to their ecosystem and environment. The concept of kaitiakitanga was described to me by a public servant working with Māori landowners as an enactment of behaviours that "protect, care for and replenish" the environment, ecosystem or its flora and/or fauna. His example was the reverting of land predominated by invasive species into a sanctuary of indigenous flora. This reconnects with the aforementioned concept of *mauri*, (life energy), as any enactment of kaitiakitanga has to have a positive outcome for the ecosystem and its inhabitants, i.e. it has to lead to enhanced mauri.

The principle of kaitiakitanga lies at the heart of the nexus of Māori knowledge and ecological agriculture, specifically due to its emphasis on the active participation of the individual. Harmsworth and Awatere outline the kaitiakitanga approach as inherently aspirating toward sustainable use of natural resources since Māori knowledge acknowledges that all benefits are reciprocal. By this the authors mean that the idea of guardianship of the ecosystem/environment necessarily involves active participation in such ways as to ensure the most benefits to that ecosystem as possible and by doing so, the ecosystem will

reciprocate the deeds of the people or communities adhering to such kaitiakitanga (Harmsworth & Awatere, 2013: 281).

Anderson paints a picture of the modern world as one in dire need of connecting "the deepest human emotions with institutions that sanction ecological sanity" (Anderson, 1996: 27) a point that arguably holds even more today, three decades later. The Māori knowledge system with kaitiakitanga in the centre, provides us with a primary example of emotional anchoring that promotes ecological sanity. Moving forward, it is not sufficient to understand the emotional and spiritual underpinnings of Māori land use and resource management, but for the holistic picture, a practical dimension is necessary.

## 6.3 Understanding the Soil

Stacey is 23 years old and described his Māori identity as the result of a long and at times painful journey of self-discovery. Having been denied to visit the *marae* (tribal centre) by family members, Stacey went against the grain of his family when wanting to explore his heritage. He explained to me that his adolescence was surrounded by unquestioned atheism and intellectual experimentation. He identified his younger self as an "overtly rational person" in search of deeper meanings in life.

After moving to the capital, Wellington, a political consciousness started forming and Stacey wanted to make a difference regarding issues of importance to him. He started an urban garden in his backyard, hoping to provide a sustainable alternative to large-scale industry production of food. It was through learning more about gardening and investigating land use that he started to get closer to his Māori roots in a more discernible way. He said that, "The Pākehā way of understanding land use and categorising and rationalising land just didn't make sense". Working in food production started filling what he called a "spiritual hole" which he had previously been unaware of.

For Kim, the 23-year-old artist mentioned earlier, having been born in Australia, she was always detached from her Māori roots, even if her parents had been very welcoming of her interest in their heritage. She had lived in larger cities for a while and always felt that "there's a colonising aspect of living in the city". She explained that it disconnected her from her heritage.

Only by moving to a small rural town in Aotearoa/New Zealand did she finally reinvigorate her "whakapapa energy" as she put it. When I asked what "Indigenous" meant to her, she reverently replied, "connected to the land". Living rurally helped her with that connection she explained. The connection to her *whenua* (land) aligned her with so many

values, like art, food, community life, kaitiakitanga and *te reo Māori* (the Māori language), which have now become the foundations of her sense of belonging and life purpose.

The art centre where she works and the university where she studies both focus on Māori life and culture. A cornerstone for both institutions, that directly comes from their Māori focused agenda, is the incorporation of food gardens on the premises. I spoke to several individuals in this town who all emphasised the importance of this practice. One of the busiest cafés in the town centre primarily sources its ingredients locally and first-hand from Māori gardens and farms.

Māori researcher and self-proclaimed food activist, Jessica Hutchings champions the Māori connection to their land as paramount to the health and prosperity of the Māori population. In a presentation on soil health and food sovereignty, together with her co-host, she informed her audience about the importance of microbes in the soil through good composting techniques and the promotion of biodiversity as vital for soil health. She underscored that these practices should be performed in recognition of the soil's position within the "complex woven universe" of *te ao Māori* (the Māori worldview) and that soil is inseparable from Hine-Ahu-One, the mythical mother of all human beings according to Māori mythology (Para Kore Media, 2021: 47:00).

The approach described by Hutchings, along with the experiences and reflections offered by Stacey and Kim, aggregate into a co-evolving flow of recognising, on the one hand, *material* and on the other hand *spiritual* understandings of the environment.

In the former, science can provide input on how we can better utilise land in sustainable ways. However, if that route of knowledge production is the only progressing force, or if no reflections from alternative types of knowledge production are granted access to the discourse on the environment, a deficit of non-material values and qualities will build up. Such a deficit can be mitigated by recognising the latter flow to join the discourse and balance the scales. Stacey ruminated on the effects Māori spirituality has had on his approach to growing food:

> I think one of the core principles [is] understanding the soil as a living thing [...] the spirit in the history of the soil as a living thing [...] if you see that, how does that change how you interact with the soil? You might not be so inclined to pulverise it into a powder through intensive tillage for example.

Similar ideas are conveyed by Anderson, who states that we should strive to incorporate the most diverse collection of wisdom and experiences possible if we are to survive as a species (1996: 175). As presented previously, such a collection of wisdom teaches us that deep

emotional connections with the environment are imperative to enact the major shift in human action necessary to overcome modern civilisations' ecological degradation.

Anderson categorically identifies the outcome for human society as a corollary of the ability to successfully maximise correct real-world knowledge in ways that incorporate emotional anchor points for the individual and the collective alike, while managing to educate the next generations in these traditions. Failing to do these things will lead to the failure and destruction of that society (ibid.: 176).

When reviewing the anthropological history of Indigenous knowledge systems, Anderson posits that most accounts point to the incorporation of "extremely detailed, pragmatic, empirical knowledge, religiously represented, and bound up with an emotional tie to the land" (ibid.: 170, de-emphasised from original). The participants of this study show that Māori land use is a manifestation of such an Indigenous knowledge system in practice. By understanding the soil from the Māori perspective we can easily see how their "emotional ties to the land" generate environmentally sustainable approaches to land use.

Having established parts of the Māori knowledge system, some inherent beliefs and practices related to land use, we shall move on to how Māori incorporate non-Māori knowledge into ecological agriculture. This necessitates a preface of Māori aspirations and demands on their social surroundings, i.e. the Pākehā population and the government of Aotearoa/New Zealand.

## 6.4 Mana Whenua / Land Authority

Mana whenua refers to the right to authority over tribal land and resources (Harmsworth & Awatere, 2013: 284). As such, mana whenua denotes the people associated with a geographical area.

As an outsider, I came to Aotearoa/New Zealand with a presumption that the country was at the progressive forefront when it came to Indigenous recognition. As a society, I imagined it to be very inclusive and supportive of the Māori population and their culture. Conversely, every encounter I have had with Māori individuals during my fieldwork dismantled that presumption. This reality is verified by the report on racism in Aotearoa/New Zealand (Smith et al., 2021) mentioned in Part I.

The relationship between modern-day Māori and their land is highly political and colonial remnants are frequently mentioned as obstacles to attaining mental and physical well-being for many people I met. Kahurangi juxtaposed the life of her ancestors with the realities that came with a Westernised Aotearoa/New Zealand:

> We did live in a community. The marae was the main meeting house and then you have the food house, and I think now we put up fences and we create separation between our neighbours…

Frida had similar meditations on traditional vs modern Māori life:

> That's how we lived around the lake, we traded with each other, you knew who was growing potatoes, took it through the region—they would go to everybody [...] everybody got fish, you know, once a week or something. Times were [different], that's just how we communicated! [Dad] said the hard times arrived with the alcohol [...] There's the land trauma, the language trauma you know, and with alcohol, it's not a very nice mix. Caused lots of trouble for people…

Some concrete issues for modern-day Māori are found in the cross-section of culture and land use. Frida was emphatically against how Māori poverty has been handled and told me that many affordable housing projects initiated for Māori were built with imported wood and designed to Western standards with no thought of Māori values and standards at all. "Māori have no access to their whenua (land)" she told me while driving the paradox home by showing me that the areas of social development projects around Lake Taupō were in the middle of industry-scale pine forestry, supposedly for export.

When discussing Māori land access with Greg, a public servant at the Ministry of Primary Industries (MPI), I was told that 20% of Māori-owned land is landlocked with no legal access to it. You would need a helicopter to access it. Neither neighbours of these plots of land, nor the government offer any help in gaining access. He put the reality of Māori land in stark clarity:

> We [the Government] have deliberately eroded Māori rights to access their whenua, we've taken the land, we've put Western frameworks in place —which you know, the governance models are not Māori models—so all of these things are just barrier after barrier to being able to realise the opportunity that your whenua represents.

Participants often frame such opportunities as the ability to grow food for themselves, their family and their community. Kahurangi said that she used to be "a townie" who never set foot on farmland. One day, she just got "sick of the concrete jungle" and decided to move to the countryside and start growing her own vegetables. The need to be close to her family was key in the decision on where to buy.

When she spoke about the emerging need for self-sufficiency, the COVID-19 pandemic was part and parcel of that longing being pushed into the foreground. However, the general pull towards growing her food had been steadily building up, ever since she rekindled her Māori identity. Food is a central part of how Māori express their Indigenous identity (Huambachano, 2019; Smith & Hutchings 2024) Kahurangi herself said that

> Most Māoris [sic] I know all have maras [gardens], even if it's just a little plot [...] most of them will at least have their *kumara* [sweet potato] and their spuds in the ground. If that's all it is, that's all it is, but it's a staple.

This parallels Stacey's story about why he finally left Wellington, he explains that he was "looking for a more positive way to make social and environmental change", and that he believed that healthy organic food should be available in economically and geographically viable ways for all people. That led him to start an alternative business venture where, together with a like-minded friend, Stacey grows food on land that has not been used for some time that they found via a farmer's collective online.

The food is then sold as a "pay what you can" system and they also encourage people to "pay it forward" so that those more fortunate in income can help those less fortunate get healthy food. The business is not a normal enterprise model but is registered as a charity, which, instead of a better solution, at least opens up the door for them to circumnavigate the "Western frameworks" put in place, as described by my interlocutor from the MPI.

Stacey and Kahurangi's examples are tantamount expressions of the quest for Māori sovereignty concomitant with land use, food production and *tino rangatiratanga* (self-determination). Hutchings espouses a vision of a strong, healthy and sovereign Māori community growing out of collective learning and teaching, "through our own tikanga and our own mātauranga" (2021), how to feed and provide for and by Māori. This notion is called *kai sovereignty*, kai meaning food. This notion leads us from Māori worldviews, via Māori land relations into political relations and aspirations. But first a summary.

## 6.5 Chapter Summary

Māori are often referred to as tangata whenua, "people of the land". Their tikanga (societal lore) reveals a sustainable code of conduct for Māori land use and food production. Land was never considered useless, unnatural fertilisers were never used and freshwater was always respected. The tikanga had this effect on land use because it centres on improving the future for coming generations.

Tikanga and kaitiakitanga (stewardship) interact to foster a view of the environment where the Māori individual's goal is to enhance the ecosystem's mauri (life energy). This demands active participation. Therefore, it can be seen to typify the nexus of Māori knowledge and ecological agriculture. It also fits Anderson's call for connecting human emotions and "ecological sanity" (1996: 27).

Two participants related their prior sense of detachment and distance from their Māori heritage and spirituality to urban life. Sensations of freedom, positive attachment and the

reinvigoration of belonging were identified as outcomes of moving to the countryside or semi-rurally. Reconnecting to the land is perceived in terms of physical, mental and spiritual well-being.

The soil is seen as a living thing, which together with kaitiakitanga further strengthens the human-environmental relationship that Anderson professes as necessary for the civilisations' survival (1996: 176).

Access to whenua (land) is a major issue for Māori. The government of Aotearoa/New Zealand has prefaced Māori attempts at utilising their land in ways that correspond to their traditional values and aspirations with hurdles and bureaucracy by enforcing a Western framework. Since food is central to the Māori identity, and access to land is laden with struggles, Māori food production has strong political connotations. In the next part of the thesis, food production and politics will be unpacked further to better understand the participants' motivations and the bicultural influence.

# PART III

*Political Relations*

# 7. Phase One: Cross-Pollination

Frida's project could lead to more nutritious food for the community, a close-knit social network, decreased dependence on the government and the global food market along with a resurgence of Māori principles and practices if still designed around a Pākehā system (permaculture). Yet for almost two decades, Frida has struggled to engage her local community meaningfully. Why? Putting aside the potential of interpersonal issues that may lie at the bottom of this issue, it could be worthwhile to approach this as a case for trying to understand why these kinds of projects are not commonplace. Anderson will once again help us understand the matter.

## 7.1 Kai (food) Sovereignty

Food is an undeniable foundation of human survival, but it also carries a multitude of social connotations (Anderson, 1996: 105). In this subchapter, Māori kai is positioned as a symbol of Indigenous identity and a tool for liberation.

When I discussed the issues facing Māori with Frida, she believed that health issues were at the forefront, but that they came from the inability to access traditional Māori kai, which in turn is a result of the land trauma caused by colonialism. She shared a recent experience from the funeral of a relative where she stepped up and prepared and cooked Māori kai exclusively during the wake, which in Māori tradition means that relatives and family stay and mourn together on the *marae* (tribal centre) for days with the body of the deceased.

Frida was immensely proud of providing this to her community and said it illuminated the symbolic power immanent to kai. Everybody attending the wake was able to come together and mourn in a way that left them more united than before.

The fact that the occasion was cloaked in sorrow and not joy, almost heightened the need for culturally important symbols to be reinvigorated, as this context connotes feelings of loss, which by association might make a jeremiad of colonial injustices resurface in the consciousness of the mourners. Māori kai helped sidestep the risk of such a dismal occurrence.

Hutchings is very erudite in matters of Māori kai and an outspoken food activist. She puts food at the core of the decolonisation project she advocates in Aotearoa/New Zealand as allowing Māori to once again "eat from [their] cultural landscapes" (Resilience National Science Challenge, 2024: 9:05) as their ancestors did. She has proposed a Māori perspective

stemming from her research, the Kai Atua project (Smith & Hutchings 2024). From this project, she concludes that Māori believe that wairua (spirit) exists in the soil, which then infuses the produce, revitalising the wairua of the person eating it.

When instead the soil is seen for its potential profit as is the case in the industrial agriculture sector that provides the majority of the food consumed globally, the resulting produce is void of wairua. When Māori are forced to eat food produced in this way, Hutchings calls it "eating colonisation and whiteness", by which she infers the unhealthy abundance of refined sugars and refined flours while confining Māori kai to an aberrant status (Resilience National Science Challenge*,* 2024: 22:30).

The painful reality of how many Māori families depend on low-nutritious foods is conveyed by Frida's reflection after being at the supermarket, "I just get nervous looking at people's trolleys [...] I see other people who're living off budget food—it's a little bit hard, I've changed and I'm not looking much anymore…".

Kahurangi's contemplation on the symbolic nature of growing her food on her land is coherent with Frida and Hutchings' perspectives,

> It reminds me of [what] our tūpuna, our grandparents, the people before us did, and how simple life was. Cause at the end of the day we only need love, shelter and food to live. So why do we make life so complicated as adults, as humans? Yeah, it just brings me back to the present moment. And that makes me feel connected to the past, and the future.

Hutchings and Jo Smith (2024) harmonise with these sentiments and have introduced what they call "an antidote to the current broken food system" (ibid.: 12) called *Hua Parakore* (see https://www.tewakakaiora.co.nz/), which is essentially a certification system that upholds organic and indigenous food production ethics. It is intended to offer an option that supports Māori perspectives and that would like to unite ecologically viable food production that is also rooted in intergenerational Indigenous knowledge systems. In their own words, Hua Parakore intends to:

> [U]plift the mana of ngā atua (deities) and enhance Māori soil and kai sovereignty. These kaupapa [values and principles] are whakapapa (genealogy), wairua (spirit), mana (authority), māramatanga (understanding), te ao tūroa (the natural world), and mauri (life force).
>
> -Smith and Hutchings (2024: 12)

As we have seen, Māori kai can be seen as conducive to the realisation of the Māori identity, but also instrumental in their enactment of *tino rangatiratanga* (self-determination). I would argue that the implication is that the "carrier wave for ecological knowledge" that Anderson

calls the function of spirituality (Anderson, 1996, p .105), is stifled in the Māori context by the ongoing colonisation of the food system. This parallels the conclusions by Moeke-Picker (et al. 2015) that Māori communities need to work toward Māori food sovereignty anchored in their traditional foods and food systems (ibid.: 39).

It forces Māori to adopt highly creative and alternative routes to ensure the survival of their culture, language, values and worldviews. One such route is incorporating non-Māori knowledge systems and practices in attempts to resist the remaining colonial restraints. In my study, the recurrent example of such a route of resistance was the incorporation of permaculture design principles.

## 7.2 Permaculture

To freshen up the memory of what permaculture is, let me briefly remind the reader that it is an attempt at mimicking the natural environment and ecosystem in ways that benefit human needs while promoting the interconnectedness of the ecosystem and all its inhabitants and dependents (Mollison & Holmgren, 1978). It started in the 1970s in Australia but migrated relatively quickly to Aotearoa/New Zealand where two of my interlocutors, George and Francis Stone, were some of the first to partake in the necessary remoulding of the teaching methods involved in that transition.

Permaculture has gone through an internal revolution since its inception and developed principles and ideas that widen the perspective from small-scale farm design to incorporate structures of whole societies (Leahy, 2021: 10–18). Today, permaculture offers a whole spectrum of ideas that can be implemented by those wanting to improve the soil in their backyard vegetable gardens or by those who are anti-globalists and may prefer to become self-sufficient and reclusive.

Crucial to the understanding of permaculture as a movement, Terry Leahy posits an apolitical tendency following the overrepresentation of middle class advocates and adherents to the movement. The *anti-politics* of permaculture is characterised by its lack of engaging with other social movements and thereby becoming a ecological movement with an unrealised political impetus disengaged by the stagnancy of its affluent members (ibid.: 98-101).

From a cultural point of view, the spread of permaculture is interesting in and of itself but it is also relevant to the purpose of my research. This is because the bicultural reality of Aotearoa/New Zealand and the Māori-Pākehā relationship lies at the heart of why the

teaching methods of permaculture needed such a drastic shift from its inception upon being integrated into this new cultural context.

George described the two founders of permaculture, Bill Mollison and David Holmgren, as united in method but quite different in philosophical backgrounds. The dual focus of permaculture provided respectively by the founders, was to provide an alternative lifestyle that could lead people away from a societal collapse that Holmgren foresaw due to the overdependence on fossil fuels, and simultaneously become closer to the local environment and take up the practice of enacting a reciprocal relationship with the ecosystem we depend on as prescribed by Mollison.

As a place-based design method, permaculture needed to be different wherever it was implemented. So when it came to Aotearoa/New Zealand, George explained that the Australian approach of lengthy lectures on theory just did not work, "the culture reflects [the] environment [...] that's why when we did the courses [...] with Māori people it was experiential, you do the action and you're mentored and *then* you put the mental framework around it".

Francis emphasised the need to work with *intention*, which she told me always induced a real watershed moment during their courses. She elaborated,

> Doing things with intentions, you know. "We're just going to do this, we're going to do these [biodynamic] preparations with the intention that such and such happens, and Europeans are like, "What do you mean 'intention'? What do you mean? Tell me exactly what you mean by 'intention'!" Whereas with the Māori, "Oh yeah that's fine", nothing more needed to be said.

In this example, Francis points to a fundamental aspect of the Māori-Pākehā relationship, i.e. the stereotypical difference in ontological philosophy coexisting in their bicultural society. It also exemplifies a practical aspect of George and Francis' addition to the teaching style of Australian permaculture, utilising the emotional aspect of human experience, not only the physical. George continued on the same topic,

> One of the things that I did, I took David Holmgren's twelve principles, but I changed one [...] I said, 'Be Present' when you're doing the observations and doing the design [...] just see the patterns, see what's going on, what's happening around you right now. And then you go look into your past [...] the theory and all that sort of thing. But being present is one of the things [Pākehā] are not! And one of the things Indigenous people are [...] We've also gone into ceremony and also a degree of spirituality, and I haven't seen that in Australia.

From the above examples we can deduce that when permaculture reached Aotearoa/New Zealand, in no small part due to George and Francis, it developed into a movement decisively more competent to embrace Indigenous worldviews.

Kahurangi, however, did not find out about permaculture through George and Francis, nor from Bill Mollison or David Holmgren. It was the result of a deep dive into the mosaic bricolage of entertainment, opinions and knowledge that is YouTube.com. "There was no red thread, it was more or less randomly found" Kahurangi remembers. But what stuck with her most, chimes with George's Māori-influenced additions to the original principles, patience, ceremony and spirituality. When asked what the most vital sustainability practice for her land use is, she answered, "Patience, that's sustainable in itself [...] things take time, and to be grateful for the land that we do have" and we have already mentioned her ceremonial and spiritual practices.

Frida on the other hand, got into permaculture through the Waldorf preschool where her daughter attended and was involved in a permaculture project. She did end up getting help setting up parts of the original farm and George and Francis played a part in that. When reflecting on her journey with permaculture she says,

> It's fourteen years that I've been at [the farm] […] long relationship with permaculture and you know, that didn't work out because my people were just not ready—and they are still not ready.

The statement above came to me on the first day and I had not figured out many aspects of what Frida was doing and her relationship to the local community. After a week at her farm, this statement made more sense to me. At first glance, her farm has many features of a community hub with an area designed to host food markets, enough space and lodging to house over 30 people. However, those were remnants of times before the COVID-19 pandemic. Today Frida is quite secluded and only really gets involved in the school where she makes food and takes care of a garden up in Taupō, a city 50 km away from her farm.

When she says that her people were not ready, she means that her original goal was to supply her community with fruit and vegetables and be a bastion for the traditional Māori ways, which would have demanded passion and physical involvement from members of that

community. Throughout the years there has been little to no involvement by locals. Frida's primary source of help on the farm has been through the websites [WorkAway.info](WorkAway.info) and [WWOOF.net](WWOOF.net) where volunteers apply to help projects of the ilk that Frida set up.

The dreams and aspirations are still vibrant inside of Frida, and she talks about them a lot, but years of struggle and lack of engagement from the community have taken their toll. Today, Frida can come across as defeatist. But before going deeper into the current state of her project, let's ponder why permaculture principles fit so well with the Māori worldview in the first place.

## 7.3 Colonial Environmentalism

As discussed earlier, Indigenous food production and general land use offer many sustainable approaches that are preferable to the exploitative monoculture approach of industrial agriculture, but in the Māori context, the holistic approach is dependent on many levels of integration and cooperation.

Smith and Hutchings (2024: 6) point out that with colonisation, the loss of land increased which led to a decline in food sovereignty. This in turn led to health decline and dependence on the Western model of food production. During the mid-20th Century, Aotearoa/New Zealand became a beef, sheep and dairy farming nation with a focus on exporting food to the global market (ibid.).

Frida often remarked on how seeing those types of agriculture made her feel inundated with the colonial impacts on her ancestor's landscape. It is in this contemporary context that it makes sense to witness what I will call a "cross-pollination" of Māori and non-Māori systems of knowledge to increase their traditional values and lifestyle.

Anderson depicts the "Western world" in which the modern Māori is situated as one where community and religious representation has been steadily declining. He does not propose that it comes from some "ideological assault on 'Nature'" but rather the outcome of increased failure to adhere to a strategy of managing our resources under any coherent moral system (Anderson, 1996: 168).

It is not a problem of humanity being cut off from nature, it is a problem of a lack of courage and solidarity to manage the situation at hand (ibid., 122). According to Anderson, the only way to handle the situation at hand is by conservation, by which he means "*motivating individuals, especially those individuals who actually use the resources, to conserve*" (ibid.: 177, italics in original).

Suppose a Māori land owner does not want to engage with the Western model of land use, e.g. monocultures for export, and wishes to strengthen Māori values and approach the land in what they consider the most authentic way possible according to their belief. In that case, Anderson's suggestion of conservation is coherent with that goal. Anderson's version of conservation also parallels many of the permaculture design principles by virtue of valuing the diversity of humans, flora and fauna alike (ibid.: 180).

As such, the strategy for Māori land owners to engage with permaculture could be interpreted as a stand against voyeurism within large swathes of the environmental movement. Much like the discussion on preservationism vs conservationism in Chapter 3 where Māori perspectives are either hushed or ignored (cf. Delahunty, 2020).

The gist of my argument here is not that permaculture was the only viable option to join the resurgence of traditional Māori land use. Rather, I am suggesting that permaculture already incorporated values and design principles for land use strategies that harmonise with the philosophies of traditional Māori cultural practices and perspectives. Additionally, it seems likely that the permaculture movement was in some ways the antithesis of much of the environmentalist movement's values and concerns.

Two things are important to remember here. Firstly, when permaculture was introduced in Aotearoa/New Zealand and during its spread in the 1980s and 1990s, the Māori were fighting tooth and nail to have their perspectives heard in most socio-political contexts. Hence, it is quite understandable that Māori individuals who were upset and felt unrepresented, unheard and unwelcomed by the government institutions would be enticed by alternative ways of thinking that were both anti-state and incorporated care ethics (Leahy, 2021: 38).

Secondly, the Māori culture was, and largely is an oral tradition. Many of the participants had stories of *te reo Māori* (the Māori language) being suppressed and even forbidden in their parent's generation. Kahurangi's father was not allowed to speak te reo in his childhood home. Neither of Anaha's parents were allowed to. When I attended a beginners class in te reo Māori, the majority of the attendees were in their late 50s or early 60s, all of whom shared similar stories.

I will never forget when one woman stood up at the end of class to thank the teacher for providing her with a safe space to rekindle her Māori spirit and forge the broken chain to her ancestors. She could not hold back her tears and her speech left a visceral condensation in my brain that seemed to help connect some linguistically entangled neurons so that I finally

managed the previously unsurmountable quest of remembering more than two colours in te reo Māori.

Pākehā environmentalist Catherine Delahunty acknowledges the fact that within the environmentalist movement, the conviction that Māori were incapable of looking after their environment persisted through the early arguments for preservation (Delahunty, 2020). This racist penchant continues today and stretches outside of environmentalist discourse as well (Anderson, 1996: 8).

This leaves the Māori conservationists in a state of abandonment. The culture they wish to revive has been denied them. Frida laments, "The history of Māori has been hidden". The language that contains their relationship to their ancestral ways has been silenced for generations, and their cultural tradition of being part of nature rather than separate from it is at odds with the global forces that are at play in their backyard.

The Māori realise that their food is unhealthy, their soil is degraded, and their values are ignored. However, all three are promoted and elevated by the permaculture ethos. And like George and Francis state, "[permaculture] doesn't have a theology [...] it is open-ended and it attracts people who are open-minded and who are just on a search". So, the spiritual nature inherent to Māori worldviews can coexist friction-free within a permaculture design course and even reinforce the principles as some of them were aligned with Māori values.

## 7.4 Biodynamics

The reason why permaculture and Māori worldviews can co-exist friction-free is not entirely explained by simply looking at the espoused principles from the permaculture literature and then comparing their fit with a generalised version of Māori spirituality. It may not show any areas of direct conflict but that does not imply attraction by default. What I discovered under the surface of some key participants' narratives hinted at another school of thought that might act as an emulsifier in the concoction of permaculture principles and Māori beliefs.

George offered his insights,

> When you go to an organics conference it'll be more what you're used to, talking about the microbes and that people don't understand the microbes in the soil and it's all about the bugs and they're all the same as what's in our tummies and they're giving us all this food and it's all about these micro creatures, right? [...] You go to a biodynamics conference, it's all about energies, it's all about rhythms and resonances, because it comes from a spiritual kaupapa [principles], to use the Maori word, going back to Steiner and Germany and the way it was developed, there was a whole philosophy of life and it's very spiritual.

Francis tied the biodynamic approach to the Māori worldview,

> And they will talk about elemental beings, so it's just a bit the same as with Māoris [sic] talk about taniwha [lit. monster]and that sort of thing and so there's a lot of discussions of that you know, "You don't reign supreme", there're all sorts of other movements and things happening in this earth.

When describing her zealous adherence to the practical applications of Māori worldviews on her farm, Hutchings proclaims the success of incorporating biodynamic soil preparations (Para Kore Media, 2021: 33:00).

Interestingly, the corresponding view of a spiritual dimension in the soil, also inspired the founder of a Waldorf preschool, to incorporate aspects of the Māori worldview along with an implementation of te reo Māori in the curriculum. Biodynamic farming and the Waldorf school system are both derived from Rudolf Steiner and are commonly intertwined (Rigolot & Quantin, 2022).

Anderson teaches us that without ideology, environmental regulations fall short of successful implementation within any given community. Likewise, he continues, a community is the only medium through which an ideology can be enforced and flourish (Anderson, 1996, p.72). Permaculture is not an ideology, neither is it a theology, as George posited, but as a design approach it does impose certain environmental regulations regarding what one should and should not do within an agricultural system.

Biodynamic methods were not explicitly highlighted by Frida. However, having discovered permaculture while involved in a Waldorf school project, the connection is all but asserted. It would be reasonable to imagine that the ideas presented, having a foundation of similar spiritual grounding from biodynamics, made the environmental ideas and principles of permaculture readily available to adopt.

The communities that take to permaculture within Aotearoa/New Zealand, at least from the vantage point of my fieldwork, all share the perception of the soil as imbued with spiritual qualities, a view that both transcends and connects Māori worldviews and the biodynamic worldview.

For some reason, the partnership or collaboration did not develop into either a community or a wider movement. Frida said that she was no longer in contact with "the permaculture gang" because she felt that they weren't on board in the grand scheme of her dream of creating what she termed "a natural marae", by which she referred to her farm becoming a gathering space for Māori where their original ways and practices would flourish.

If I instead focus on the younger participants in this study, none of them spoke of biodynamic farming. A difference in how they spoke about their approach to ecological farming wasn't as much a complete adherence to permaculture, but rather permaculture was a

design among others. Stacey and Kahurangi both spoke about syntropic food forests. Stacey was very interested in organic farming and agroforestry while Kahurangi on the other hand ventured into more traditional botanical gardening. In the final part of this chapter, I will offer a possible explanation for the difference in the two generations of permaculture-adhering Māori farmers.

## 7.5 Spiritual Monoculture

There is a clear motivational difference regarding the spiritual component of ecological agriculture represented by the two generations of Māori farmers that participated in my study. The older generation, voiced empirically by Frida and echoed in the work and ideas of Hutchings, assimilated ideas from permaculture and biodynamics congruent with their Māori worldviews and aspirations of self-determination and food sovereignty. This is further supported by the stories shared by George, Francis and Lily where the assimilation was portrayed in reciprocal terms.

However, the three decades that separate the two generations represented in this study have left a trace in the motivations toward incorporating permaculture principles into their farming methods. Stacey and Kahurangi are not incorporating biodynamics in their land use methods, but uphold the same reverent attitude towards the Māori worldviews that inform their relationship with their environment and ecosystem as their older counterparts.

Anderson (1996) fulminates on philosophies and spiritual traditions that demand any one relationship with nature or submit to any one spiritual conviction, likening them to straitjackets. He condones the lack of openness and professes the need for diversity within any community building on their prowess in sustainability. He elucidates his point by forging a resonant parallel, "the problems with monocropping are as characteristic of its spiritual and moral forms as of its agricultural manifestations" (ibid., 1996: 180).

This argument can explain why permaculture has gone from being the main method to a one in a combination of techniques for young Māori farmers while biodynamics is confined to Pākehā agriculture. Frida stated to me that she found the permaculture people, "a bit colonising" which can be interpreted as a tendency to enforce the non-Māori aspects of their approach to agriculture. Such tenacity would be most apparent in a context where the Māori aspect would be approximate to the Pākehā approach of preference.

To add weight to this argument, Leahy's (2021) study of permaculture in the global context highlights issues of colonialism within the movement with the crux being the narrative surrounding permaculture's inception, i.e. the notion that two straight white men

"invented" permaculture. A notion that Leahy deems "Analogous to the idea that Captain Cook *discovered* Australia" (ibid.: 176, emphasis added).

A factor that calls attention to the nexus of permaculture and Māori worldviews is Mollison's polemic against the attempts at adding spiritual components to the permaculture design principles, as argued by Leahy (ibid.: 172). The obscured Indigenous influence on the genesis of permaculture goes hand in hand with the anti-politics (ibid.: 98-101) of the movement writ large.

It adds a somewhat ambiguous role of permaculture for the spiritually inclined farmer. In one way, Mollison made it clear that a permaculture course shouldn't incorporate spirituality, but as George and Francis exemplify, this continued nonetheless. In another way, Anderson's distinction of successful versus unsuccessful sustainability endeavours favours the community that has an open-minded approach to all belief systems. Mollison never attacked people's personal beliefs, only the incorporation of them into the course material of his certified PDCs.

## 7.6 Chapter Summary

The biodynamic-infused permaculture that characterised the earlier ecological agriculture projects helped transition Māori from Western-style agriculture toward a method more aligned with their traditional customs and perspectives. This is the phase of ecological Māori agriculture that I call *Phase One: "Cross-Pollination"*. However, the lack of support for the fundamental collective goals of Māori necessitated a second iteration of ecological Māori agriculture practice.

Throughout the companionship, the colonial oppression that has plagued Māori for centuries triggered warnings from the permaculture community that evoked a necessary distance. The aspiration toward *tino rangatiratanga* (self-determination) could only be fulfilled within a Māori context and permaculture offered design principles that served a function but did not offer a community that upheld the same aspiration.

The collaboration between Māori and *Pākehā* (non-Māori) in a permaculture community needed the issue of spirituality to be solved. The co-existence of biodynamics and Māori worldviews combined with the colonial representation of permaculture's origin led to friction between the two groups. The new generation solved these issues by synthesising an approach where permaculture design principles were interspersed with other land use approaches while biodynamics was left out of the picture. This marks the beginning of what I have called *Phase Two: "Diversification"*.

As prophesied by Anderson, the success of this new relationship can be seen in the light of its diversification of the older generation of Māori farmers' relationship to permaculture (Anderson, 1996: 180). I argue that the diversification came from a mixture of multiple ecological agriculture approaches but also a decentralised approach, offered by the change of information flow in the post-2010 era where channels of communication such as social media and YouTube provided new ways of getting information without necessarily engaging with the proprietors of the materials.

However, in conversations with all participants, old and young, similar issues were brought up about the challenges they all perceived concerning their local communities. This persevering issue, and others, are the subject of the next chapter.

**Figure 3.** Composting Toilet - Exterior. Photo Sebastian Carlsson 2024.

**Figure 4.** Composting Toilet - Interior. Photo Sebastian Carlsson 2024.

# 8. Phase Two: Diversification

## 8.1 The Composting Toilet

This far, I have shown how Māori farmers can incorporate permaculture principles in conjunction with their traditional worldviews, beliefs and practices. I have also proposed a generational difference in attitude towards permaculture. One intergenerational feature I frequently encountered and which often surfaced in conversations regarding the farming methods practised by the participants was the *composting toilet*.

A composting toilet is a dry toilet, which means it does not flush the waste. Instead, the user has to add some natural material such as sawdust. Frida's composting toilet also used a liquid (see Figure 4). As the name implies, the waste is then left to decompose and utilised on the farm in much the same way as any compost material or manure, i.e. as fertiliser for the soil.

This feature of ecological agriculture is not a *sine qua non,* but for the participants, it was very much a centre-piece of their philosophy of correct resource management and sustainable farming. As a solution to waste management, composting toilets fit cogently with the permaculture principle of "produce no waste" (Leahy, 2021: 14). The problem with this technology is the visceral reaction people sometimes have towards it.

Dean, a man in his 60s who had just begun the establishment of an ecovillage and was building his first composting toilet when I met him, told me that "people are faece-phobic [sic]!" and that it was a problematic undercurrent of Western civilization that people seemed to have an abhorrence towards the idea of having to deal with their waste.

Kahurangi echoed Dean's statement and told me that she thought the core issue of the Western mindset, is the inability to "deal with our shit" which she attributed in equal parts to the fundamental philosophical structure of corporations, governments and individuals alike.

When Kahurangi first moved to their farm, they started with the construction of a composting toilet. However, after having friends and family expressing feelings of repulsion at the idea of visiting them if they had to be confined to using a composting toilet, they replaced it with a more conventional toilet. This clearly went against her principles but both Kahurangi and her partner could not imagine life on the farm without visiting family and friends and therefore agreed to this compromise.

Frida spoke of a similar reaction from her community. She has organised many different projects, markets and events on her farm throughout the years and at one point she noticed that word got back to her that people, both children and adults, were bad-mouthing

her farm and attested to never wanting to visit due to their composting toilet. Rumours began to circulate in the community about Frida's produce being "filled with human shit" and visitors to the food market decreased.

Stacey believed that composting toilets made a lot of sense, but that the produce he grew and sold relied on having the "Organics" certification, which does not allow the use of human manure in food production. He also said that from what he has learned from other Māori, it is not considered aligned with *tikanga* (practice) to use it for food.

Nevertheless, he confessed that such rationale might spring from a misconception about human manure in food production based on traditional Māori communities adhering to a strict separation of waterways and latrines. Stacey affirmed that the safe application of human manure in food production was easily viable.

When Anderson dissects peoples' tendency to sometimes act in their self-interest and sometimes to do the opposite, it is once again the emotional context that pulls toward one direction over the other. He extrapolates:

> Most commonly, these emotional reasons are defensive reactions, especially hate of other human groups or of any outsiders [...] Far more common, however, is a simple breakdown of control over resource management, because a country has gone off into a negative-sum political game.
>
> -Anderson, 1996: 97.

In our example, it is not entirely clear whether Anderson would categorise the participants in this study as "outsiders". It seems more likely that the reaction from their communities toward the use of composting toilets comes from a higher-level sense of disillusionment towards their government.

Psychologically, the community response to a rational decision to minimise waste and mitigate soil degradation such as the utilisation of a universally available product of human origin, i.e. faeces, in times of an ongoing climate crisis seems irrational. But if Anderson is right, it simply stems from a fear of losing the things they have grown accustomed to.

My participants challenge the normalised "necessities" in Westernised societies like Aotearoa/New Zealand and may therefore be categorised as a threat to people who are not themselves engaged in the nitty gritty of sustainability, ecology or even farming. Ignorance is part of the problem for sure, but a heavily polarised political climate creates a morass in the dialectic of our species' future on this planet. From a political point of view, Figueroa-Helland (et al., 2018) offer some encouragement by professing that the success of ecological agricultural movements depends on their ability to be radical and "secure

alternative livelihoods by (re)creating [...] praxes able to sustain themselves autonomously" (ibid.: 182).

## 8.2 Waste Management & Tino Rangatiratanga (Self-Determination)

The Māori NGO Para Kore has since 2010 worked towards making all Māori *marae* (tribal centre) zero waste and educating Māori communities in dealing with waste and understanding compost from the perspectives of Māori worldviews (Para Kore, n.d). In an instructional video on their philosophy and mission, Te Kawa Robb, a representative of Para Kore explains that when a community take control of their waste management they also increase their *tino rangatiratanga* (self-determination) (Para Kore, 2020: 04:20).

Making use of Altieri and Toledo's (2011) analysis of the peasantry movement in Latin America, we can also draw parallels between the three components of resistance to neoliberalism and "BigAgro", *energetic sovereignty* (the reasonable availability of communal energy sources like plant biomass), *technological sovereignty* (the ability to produce without external inputs) and *food sovereignty* (ibid.: 606-607). All three connect in the Māori waste management exemplified by composting toilets and the philosophy of Para Kore and aid the goal of tino rangatiratanga.

By creating a closed-loop system, they become less dependent on stores and systems set in place to perpetuate the waste cycle of consumerism. By extension, such waste management decrease the dependence on the Western colonial system. This will increase the tino rangatiratanga of the whole community and its constituents. In practice it can be as simple as planting *kai* (food), eating the kai, returning the waste to the *whenua* (soil) andrepeating the process and integrating it into the daily practice (ibid.). A composting toilet could be an integral part of such a system.

Hutchings remarks that the economic and political drivers of perpetual growth–evidenced by Aotearoa/New Zealand's export-focused agriculture sector–coerce what she calls "secular colonialism" and are intrinsically counterproductive to tino rangatiratanga and kai sovereignty (in Resilience National Science Challenge, 2024: 1:16:00). In other material, she declares that diversity goes against the clandestine principles of "BigAgro", e.g. the leading businesses involved in the global food market (Para Kore Media, 2021: 32:50). The arguments follow environmental critique that harkens back to the paradigmatic release of *The Limits to Growth* (Donella H. Meadows et al., 2013).

## 8.3 Māori vs the Crown

Altieri writes that sustainable agriculture can be achieved only when social, economic and political factors are fine-tuned accordingly (Altieri, 1995: 379). If the fabric of society is not sustainable, its food production systems cannot possibly be either. Altieri negates the possibility of ecological agriculture in the absence of an "evolved, conscious human being whose attitude toward nature is that of coexistence, not exploitation" (ibid.).

Stacey has struggled to uphold his Māori tradition through and through when it comes to his business venture. He says that the experience of starting a business with the sole intent of providing affordable organic food to his community is not only hard but dispiriting. The "Western profit-driven framework disconnects us from our land" he sighed while weeding.

Access to capital was a common thread when I researched Māori land use. According to Greg, my interlocutor from the Ministry for Primary Industries (MPI), this stems from the fact that banks won't loan money when land is owned collectively, which has traditionally been the Māori version of land ownership (Hall, 2021: 341).

Even in cases of private Māori ownership where funding was more readily available, industry standards and economically viable options were rarely attuned to Māori values. A striking example of this is the common reality for Māori landowners in the northern territories of Aotearoa/New Zealand who can rarely turn down the radiata pine industry which is the biggest employer in the area.

Greg pointed out the torment for the Māori people he has worked with who want nothing other than to plant native trees on their land. However, working with pine, "brings in the money, it's hard, the feelings you would have about your land has now gone into pines, and 'Can it ever come out?', and 'What will the state of the land be after that?'".

I did not have to spend long in the field before it was overwhelmingly clear that Māori have little personal positive experience of their government. Within a few weeks, I had spoken to numerous Māori individuals who saw no reason to hold back their grudges with the Government, statements of this sort rarely required any prompting either. I photographed a statement (see Figure 5) graffitied to a wooden fence facing State Highway 1 running through the Kāpiti Coast of which I encountered several iterations during my fieldwork. These encounters would be frequent throughout my fieldwork and reverberate through my conversations with public servants too.

**Figure 5.** Graffiti on wooden fence stating, “Government lied our people “died” FACTS”.
Photo: Sebastian Carlsson, 2024.

Greg at the MPI corroborated that there’s a general lack of capability to work efficaciously in the interest of Māori within government institutions. The skills regarding the culture, aspirations and even *Te Tiriti* (The Treaty) obligations of the Crown towards Māori were identified as severely lacking.

Tanya from the EPA continued in a similar vein, she sees the main issue as legislation standing in the way of transparency within organisations such as the EPA which furthers the mistrust in government and official agencies of the Crown for Māori communities.

What came to mind for Tanya, was that she wouldn’t legally be allowed to share pending or denied applications for mining on Māori land where the EPA has not identified any attempts at assessing the cultural and environmental impacts of their project until the

project has been cleared and granted permission to go ahead[21]. So any number of companies that fail to assess such aspects of their projects and whose negligence could provide evidence of harmful industry praxis are unavailable to the public.

Tanya said that when discussing with Māori representatives from *iwi* (tribe) or *hapū* (sub-tribe), she can rarely provide any valuable information about what kinds of applications the EPA get, what companies are interested in mining or prospecting and what areas they are seeing interest in etc. She directly linked such lack of transparency to continued mistrust in the government by Māori.

Another example where the government's communication has led to further Māori alienation was the 2007 vote against the UN's Declaration of Rights of Indigenous Peoples (United Nations, 2007). Notwithstanding the rectification three years later, critics consider it an epitome of the general position held by the government against the Māori population (i.e. Solomon, 2008).

These experiences add up to a situation where Māori land owners and/or managers are incapacitated from tending to their land in their traditional ways and for their traditional intent. Even if the MPI, as Greg was careful to point out, respectfully takes spiritual and non-quantifiable values into account when assessing how they can help Māori individuals best approach their lands, Māori are still forced into configuring their land use into the wider context of Aotearoa/New Zealand's socio-political fabric. Getting help with a feasibility report is a helpful strategy for many, but the often justified feeling many have that the government is doing the bidding for big corporations rather than for Māori communities may overshadow the overall relationship between Māori and their government.

Anderson provides additional counter-argument advocacy to Altieri's demand for radical socio-psychological evolution, "the rise and decline of civilizations has me [*sic*] been ascribed to environmental misuse. Perhaps it is more accurate to say that environmental misuse is due to the decline of civilizations" (Anderson, 1996: 99). I would argue that one issue that needs to be addressed in the interest of interrupting or preventing such a decline, is the remnants of colonialism.

## 8.4 Continued Colonialism

The concurrent socio-political climate in Aotearoa/New Zealand is deeply situated in how the government deals with the remnants of its colonial past. The relationship between Māori and

[21] For clarification, it is not in the interest of the EPA to grant any environmentally (nor culturally damaging) operations on Aotearoa/New Zealand soil. They would not grant the hypothesised project above permission to continue based on that simple premise.

the land of Aotearoa/New Zealand is key to this as we have seen already. Lockhart (et al., 2019) propose that when Māori seek to reclaim land, it is simultaneously to return what was stolen through colonisation and restoring tino rangatiratanga (ibid.: 11).

As covered in the background chapter on Governing Biculturalism, the land tenure system forced Māori into a Western framework of land ownership. The idea of having a charitable trust representing all individuals with ancestral ties to a plot of land made sense from a Eurocentric point of view and is congruent with the practice of avoiding Te Tiriti responsibilities that began directly after the signing of it. Indeed, Te Tiriti symbolises tino rangatiratanga and colonialism simultaneously (ibid.: 3).

When I spoke to Frida about the topic of land trusts, she laughed at the idea. She has inherited the land her farm is located on from her father but the land is formally owned by a charitable trust and she is appointed the manager and caretaker of it. She laments, “That’s not how we traditionally organise ourselves or deal with issues at all!” It’s essentially, in Frida’s view, that Māori communities are forced to work along the rules and regulations of Pākehā systems of governance.

Frida continued the problematisation of the land tenure system and said that certain Māori persons have power and influence over Māori matters that haven’t necessarily been granted to them by other Māori but rather appointed through the government framework. This would traditionally, according to Frida at least, have been issues dealt with on the marae of the relevant iwi and hapū according to Māori customs.

This issue is reminiscent of Moana Jackson’s (1987) analysis of the bicultural issue in general, i.e. that the Māori population and culture are forced into a monoculture of European origin (ibid.: 11-12). It is a comment that continues in the critique of the environmentalist movement in contemporary Aotearoa/New Zealand by Catherine Delahunty (2020) who subsumes the related friction between Māori and Pākehā under her claim that the Pākehā majority eschews the issue of Māori sovereignty.

The land tenure system is a vibrant example of continued colonialism from the point of view of Māori sovereignty. When I discussed the issue with a researcher working for a research centre partially funded by the government, Frank, as I have named him, drew parallels between the colonial relationship between Māori and Pākehā and that of the ontology of neoliberalism and Indigenous ontologies. He explained that both relationships differ in their conceptualisation of connectedness. Pākehā writ large align themselves with the ontology underlying neoliberalism and the conceptualisation of connections as transactions

rather than relations which is how Māori and Indigenous ontologies more generally conceptualise connections. He offered the following analogy:

> At the moment, money or price sets the proxy for everything. As a result of that what we have is a series of transactions. So if you accept a salary, everybody infers by proxy that you are happy with your job. Because you accepted it, you know? So we actually let a lot of [the] conversation slip out of those transactions.

The underlying cause of this ontological opposition is not resolved by information alone, Anderson reminds us (1996: 7-8). It is not ignorance of differing opinions or worldviews that alone widens the gap between representatives of these philosophical antagonists. The *force majeure* of political realities such as these is purely emotional. Anderson takes the example of nationalism (ibid.) but as Frank hints, neoliberalism fits the bill just as much.

According to Anderson, the only prophylactic is to enforce a moral code that connects with these emotional structures ingrained in the citizens of said society or community. He posits that people share similar needs but differ in the ways they satisfy them, "The ideal society is one in which people have a chance to realize their differing potentials and to work together with each other, so that each one complements the other." (ibid.: 96).

The small-scale farms in this study could hardly be said to exemplify an active attempt at including Pākehā in their land use as such[22]. The philosophical developments that the ecological Māori movement has undergone when moving from Phase One into Phase Two uncovers a trend toward diversification of ideas, beliefs and practices which would enable their moral codes of ecological thinking to transfer easier onto a wider group of people.

It seems likely that a future iteration of this movement can find ways to bridge the ontological gaps introduced by participant Frank and the framework by Anderson above.

For the final piece of the puzzle, we shall move on to the last subchapter where I will go through the implications of the "Diversification phenomenon" that I have until now momentarily touched upon.

## 8.5 Connecting to the Community

First I will dissect the *Māori Ecosystems Framework* suggested by Harmsworth and Awatere (2013). The authors inform us that ecosystem services in general contain the following; some form of provisioning (like food); some sort of regulation (such as waste or water regulation);

[22] Apart from George and Francis, who should not be interpreted as an example of ecological Māori agriculture. Instead, important facilitators and instigators of the permaculture adoption in Aotearoa/New Zealand that enabled ecological Māori agriculture to manifest.

an option of cultural expressions (for example spiritual benefits) and last but not least; environment-supporting services, e.g. nutrient cycling or soil formation (ibid.: 281).

Frida's farm ticks all the boxes[23], except the cultural element. I would even advance that statement and claim that the cultural element on Frida's farm is primarily Pākehā oriented. As previously stated, Frida aspires towards creating a community hub that can act as a "natural marae", a nature-based tribal centre for community services such as funerals, gatherings and celebrations. As her farm is laid out and connected to the local environment, it is currently more aligned with the voyeurism within environmentalism professed by Leahy (2021: 39). I stress, this is not the case for Frida herself, but for many who visit her farm. It is a separation from society and an invitation into wild nature, located on the doorstep of pristine nature reserves.

I have stated previously that the local Māori community has little engagement in Frida's farm. It is relevant to add that Frida revealed to me that her they also frowned upon her interactions with Pākehā volunteers. How can this situation make sense if we are to believe that environmental care, self-determination and food sovereignty are politically salient issues for Māori on a group level? Or to connect it to my research questions, if Māori worldviews, beliefs and practices can coexist in ecological agriculture, which all the participants are evidence of, why is Frida involuntarily isolated to such a degree from her local community? Can biculturalism help us understand the intricate influences at play here?

For an ecosystem service, like Frida's farm, to become relevant in terms of Indigenous values, Harmsworth and Awatere (2013) add two factors. Firstly, cultural aspects cannot be limited to aesthetic and recreational values but need to widen the scope to include traditional and customary practices. Secondly, the need to overtly invite Māori in the decision-making process is key (ibid.: 282).

For Frida's farm to become the cultural and spiritual hub she envisions, the comments from Leahy (2021), Anderson (1996), Harmsworth and Awatere (2013) would synthesise into two suggestions: first, to complete her "natural marae" idea as it would transform her farm into a fully functioning Māori ecosystem service. Second, and this may be paradoxical, it could be beneficial to invite members of the local Māori community to participate in the decision-making process of her farm.

Frida comprised her disbelief in society as a result of having no voice, she did not feel as if her say mattered in any setting, not at the school where she works, nor in society at

[23] To clarify, Harmsworth and Awatere took their description of *ecosystem services* from the Millenial Ecosystem Assessment (2005), and they contain more details per component but the examples in brackets are the ones that correspond to Frida's farm.

large. In her case, the saying “be the change you want to see in the world”[24] might suffice to develop her farm from its current fit as an ecosystem services framework to a Māori framework. The farm could become a conductor for the local community, no matter how irreverent their attitudes are about the other aspects of her farm, such as the composting toilet.

She has the vision and she has the land, her struggle to engage the local community might just be solved by focusing her efforts on the “natural marae”. This would also supplicate a wider epithet to my proposed second phase of ecological Māori agriculture. In Frida’s case, the next phase, diversification, goes beyond the theoretical and philosophical elements that Kahurangi and Stacey’s farms are engaged in.

Seeing Frida’s endeavour from the point of view of having cross-pollinated permaculture ethics and biodynamic approaches grounded in Māori worldviews uncovers a track record where involvement with Pākehā permaculturists opened up possibilities for land use that upholds traditional Māori values. It also built momentum towards tino rangatiratanga by resisting remaining colonial power dynamics in society.

This momentum developed into a resistance of identifying with the permaculture movement itself, as described in chapter 7. The ongoing struggle Frida finds herself enmeshed in is characterised by a lack of community, both Pākehā and Māori, and a lack of influence over multiple facets of her life.

Following the analysis afforded by the present framework, the components needed in Frida’s praxis can only succinctly offer a route toward involvement by the local Māori community by offering decision-making power and spiritual sanctuary on her farm. When it comes to involving Pākehā more widely, the lessons we can learn from Kahurangi and Stacey are for future research to apprehend as their ecological agriculture ventures are still in their genesis.

All these ecological agricultural projects are limited in scope to one or two people responsible with external help ebbing and flowing as the seasons change. Through theoretical, philosophical and practical diversification they all have the potential to ignite a socio-political engagement that attracts the local community to have a say in the ecosystem management of the land while also allowing a plethora of spiritual and cultural expressions to manifest on their farms. Such spaces seem more likely to manifest tino rangatiratanga than those offered within the mechanisms of governmental bureaucracy.

[24] A saying often misattributed to Mahatma Gandhi (Morton, 2011).

## 8.6 Challenges to a bicultural Partnership

George told me he wants to form partnerships with Māori and that the current climate of "banging on doors and taking people to court" leads nowhere fruitful. Hutchings is equally pessimistic about the ongoing socio-political climate and candidly states that Māori simply do not have time to "go on a learning journey and work out how we work with Māori and Pākehā [...] because our food system is at a crisis [...] we'll work it out in the doing of it" (2024), adding that no matter what, Māori should be at the centre of the conversation.

Hutchings also invites her fellow Māori to heed the traditional ways of connecting with the soil and food by developing a daily relationship with the environment (ibid.). She takes the examples of hunting, growing vegetables, preparing soil, fishing or offering other services to the ecosystem. The activities need to be unmitigated by technology and involve direct physical contact with the environment, she professes. This invitation rings true from Anderson's perspective too, a moral code of environmental conduct should not be guided by monocultural or monotheistic fundamentalism which forces people into a mould (1996: 96). The connection is a pluralistic remedy that can be made to fit individual preferences.

I saw an example of this when wandering around the township of Ōtaki and stopped outside a preschool where I saw school grounds incorporating orchards and vegetable patches. There were chickens and fruit trees interspersed with small pathways where children's toys lay scattered.

I saw a teacher walking around the premises and asked her about what I saw. She said that the teachers had unanimously decided to start a *mara* (garden) on the school grounds that would teach the children about growing food and looking after the environment while also supplying the school lunches with fresh and healthy ingredients. For people who may not afford homes with integrated gardening possibilities or where time outside work is limited, such options may provide a unique ability to contribute to food security and sovereignty.

The school was a full-immersion preschool, meaning that only te reo Māori was spoken and the educational materials focused on Māori perspectives, history and culture. As such, it not only exemplifies a creative solution to enacting food security and sovereignty but also strengthens the cultural-environmental mindset inherent to Māori worldviews by introducing the younger generations to both philosophical and practical aspects of Māori traditions. It can also be interpreted as a socio-political project to enable tino rangatiratanga for the coming generations of Māori.

The analogue perspective of alignment to the future within pedagogy and ecology is represented in Anderson's theoretical formulation of the fundamental issue for human

society's survival, namely to combat *positive illusions.* It refers to the tendency to value short-term gains above long-term benefits (1996: 119). It is the success at combating this tendency that Anderson correlates with a moral code that evokes a sense of visceral entanglement with a collective's long-term well-being and the individual's voluntary behaviour on a day-to-day basis. Such visceral entanglements have often been spiritually inclined, but need not be. The point of the entanglement is not to approach eschatological questions but to "define the natural environment as part of our personal community" (ibid.: 173).

To avoid making an emotionally rooted moral code appear unappealing and dogmatic, Anderson conveys, cultural diversity is paramount. Mananui Ramsden (in Country Life, RNZ, 2018) tells his journey about involving Pākehā in Māori traditional resource management and land use:

> When I first started, some of the people thought 'Oh, what are these Māoris up to? They're here to take our land' [...] Quite the contrary. We're here to support you guys moving into the future. This is our one little [opportunity] over 150, 170 years of having our voice heard when it comes to land management.

Ramsden summarises his experience with his realisation that Pākehā and Māori work well together when their backgrounds and worldviews are discussed, contextualised and granted a position at the forefront of their interaction. He concludes that Pākehā enriches their "cultural capacity" by allowing space for Māori worldviews and that both parties become more deeply invested in developing kaitiakitanga (stewardship) with nature (ibid.).

Ramsden's story supports Anderson's provision for successful environmental practices, which is that it depends on "*grassroots-level management and moral suasion*" (1996: 134, emphasis in original). But the contemporary political climate, as confessed by both my public servant interlocutors, polarises the two parts of the bicultural entity that is Aotearoa/New Zealand. Māori are forced to conform to a system that only takes their worldviews into account at the periphery of governmental power structures.

The Ministry for Primary Industries (MPI) allows for cultural values, similar to those espoused by Harmsworth and Awatere (2013: 281), to be included and acknowledged in their assessments of land use involving MPI-assisted finance. Nonetheless, my interpretation of Greg's narrative was that he understood and empathised with the Māori worldviews and aspirations. The role of a public servant offers few avenues to openly critique the status quo that many Māori rebuke. Nonetheless, from his chronology of MPI's involvement with Māori landowners I deduced that it was a practice of tokenism at best.

As Tanya at the Environmental Protection Agency confirmed, true political transparency would begin mending wounds between Māori and government institutions that have historically failed to uphold responsibilities under Te Tiriti. Before then, symbolic gestures and policies that do not produce manifest boons for Māori can hardly be expected to strengthen the image of the government within Māori communities.

Anderson (1996) reaffirms this when he purports that the level of power afforded to leaders in any given society, correlates with their level of disconnection from real-world problems. Such disconnect prepares the soil perfectly for economic growth, but catastrophically for managing the environment (ibid.: 117).

The implications can be translated into the sustainable development graph in Chapter 2 (Figure 1). In the upper-right quadrant, centralised power maintains the status quo and green growth *á la* neoliberalism is in vogue. In the lower-left quadrant, the movement is characterised by decentralisation and degrowth is promoted as a Promethean alternative to the environmental nemesis that is neoliberalism.

My understanding of the political situation of Aotearoa/New Zealand is primarily based on the information relayed to me by my three interlocutors Greg from the MPI, Tanya from the EPA and Frank the researcher. The insights from these three point toward a lack of true representation in parliament along with widespread ignorance of Māori perspectives and worldviews.

However, the disconnect from the real world that Anderson refers to is not limited to neoliberal politics but is a recurring problem throughout government institutions on both sides of the political spectrum. He dismally depicts modern politics as confined to dealing with emergent conflicts between groups fighting over resources. In its wake, local communities are facing an impasse for partnerships and long-term vision (ibid.: 5).

## 8.5 Just like the Seed

As it stands thus far, the farms under examination here face socio-political aporia to various degrees. Frida wants to connect to her local community, and George and Francis want to engage in a partnership with Māori to realise their mutual desire for a new way of life away from the fossil fuel-dependent neoliberalism of Aotearoa/New Zealand.

Stacey is fighting to be able to continue upstream against the colonial restrictions put in place to guide him into the Western frameworks of business rather than the traditional family and ecosystem-oriented version of his ancestors. Kahurangi is crafting a world to her liking, one that enacts a reciprocal relationship with native flora and fauna while also inviting

a diversity of cultural and spiritual expressions. She is adamant about doing this herself due to her experience of “the powers that be”.

The abeyance of perceptible progress relating to the values shared among my participants has left them recalcitrant. At the same time, if they are representatives of a sustainable development movement, as I propose, they need involvement by local communities to pursue and realise a decentralised power structure and an economic agenda of degrowth. These abstractions are pragmatically translated to tino rangatiratanga and kai sovereignty. But if their movement has entered a new phase, where can we localise their exact position within that? Have they just entered it or are they on their way toward a third phase?

George painted a tangible picture of what has happened to individuals who complete a permaculture design course and step back into the world they strived to change for the better,

> We’re planting these seeds, these human and permaculture seeds, and like any good seed, you’ve got a strong shell around you to protect you when the conditions are not right, and you’ve got to maintain that shell around yourself, and be careful with it and how you’re interacting.

This is where I would like to position my participants. A transitory state within Phase Two of Diversification. This transitory position was reached following the culmination of certain events. All of the participants expressed clear-cut changes in their approach to everyday life and how they perceived a realisation of their agency as individuals responsible for their life situation following the aftermath of the Covid-19 pandemic.

The personal situation that many lived through during the pandemic–for example, the social isolation and the lack of access to necessities such as food, healthcare and support–coupled with the collective experience of living through the rampant climate crisis, sparked a sense of urgency in many people I spoke to. A subconscious factor exacerbating this situation that I would argue for is the widespread disbelief in the government. Even if not every single individual I spoke to abnegated the government, a general sense of avarice cloaked the conversation whenever political solutions were offered as a potential solution. The most politically enamoured interlocutor I encountered conveyed a view of Parliament as suffering from myopia.

The urgency of the climate crisis and the shock treatment of social realignment evidenced by the pandemic translated not into action but into networking. In this transitory phase of ecological agriculture, the aspects relating to land use continue as before to a large extent. “Sustainability in action” can be summed up as patience, as Kahurangi told me. But at

the same time, as Anderson (1996) reminds us, conservation of the environment is in its most basic form about people, not resources (ibid.: 123).

All participants gave various examples of spreading out their social tentacles during my time in the field. Frida said that she would continue to grow her food and make lunches at the school, waiting for her chance to step in and have her voice heard and eventually show her community by enacting her values (i.e. building the natural marae), not just talking about them.

Kahurangi was willing to make concessions on her inner convictions (such as the composting toilet) to open up her farm to a wider social network that could come and witness the real possibilities of living off the land in the traditional sense. When discussing her choices of work, how she spends her free time and what matters in her social surroundings, it was clear that strengthening her social network, exploring her heritage and living in harmony with the land made up the core of her decision-making process.

Stacey is presently spreading the word about his business model and is hoping to expand the amount of land they currently borrow so that they can offer more food to more people. He said that he hopes to inspire more businesses and more people to incorporate such Māori-anchored values as pay-it-forwards and pay-what-you-can.

Albeit not qualifying as belonging to ecological *Māori* agriculture, George and Francis' permaculture journey shares some aspects with the other participants. In their role as permaculture teachers and with their close-knit relationship with the local Māori community they have also progressed through similar phases of cross-pollination and diversification but from a Pākehā point of view, that is, they have cross-pollinated with Māori and Biodynamics.

George and Francis' diversification has come through reaching out to a global network of permaculturists and developing the permaculture ethos from the localised context of Aotearoa/New Zealand. Their footprint in the Māori aspiration toward food sovereignty and self-determination would be best interpreted as facilitators for both Māori and Pākeha to realise the potential of permaculture to create a different societal structure based on fundamentally different values than the modern zeitgeist.

Permaculture in Aotearoa/New Zealand has been instrumental for both Pākehā and Māori who are viscerally drawn towards finding new ways to approach questions of ecological balance and spiritual solace.

## 8.7 Chapter Summary

Getting help with a feasibility report is a helpful strategy for many Māori land owners. However, many cannot access funds from the bank due to the land being held in collective titles. A second problem is that growing native plant species is not considered profitable enough. It holds intrinsic value for Māori land owners planning to restore their ancestral lands but is often unsurmountable without proper funding mechanisms. A third issue is land-locked plots where the Māori land owners have no legal access to the land.

Some landmarks of cultural revitalisation are noteworthy and the power dynamic between Māori and *Pākehā* (non-Māori) has evened out somewhat over the years. Still, racism coupled with being forced into a Western framework of land use and business exemplifies colonial remnants and together they further inhibit Māori attempts at *tino rangatiratanga* (self-determination) and *kai* (food) sovereignty.

It is in this context that the second iteration of the ecological Māori agriculture movement has been implemented. I call this *Phase Two: "Diversification"*. Permaculture has offered my participants a powerful tool for achieving a higher sense of tino rangatiratanga and kai sovereignty in their spheres of existence. The lack of trust in the government and its institutions, alongside widespread racism and the unacknowledged role as nurturing and mutually beneficial custodians of the ecosystems and general environment of Aotearoa/New Zealand, has quite overtly led to grassroots movements of individual types in people's *mara* (gardens) and collective types on the grounds of the marae.

Instrumental and evolving, permaculture is still an approach to issues of *design*. It has most concretely helped the Māori cause of kai sovereignty. Still, as I have underscored in the final parts of this analysis, ecological Māori agriculture needs to incorporate a wider conceptualisation of cultural values than other ecosystem services. It needs political anchoring in the form of participation and tino rangatiratanga.

This demands further development of the movement which can be seen in the material presented in this thesis as the diversification of philosophical and spiritual modulations as a response to the "monocultures of the mind" (Para Kore Media, 2021: 47:50). The initiation of this diversification sprung out of the newest generation–exemplified by Stacey and Kahurangi–and the abundance of information and influence offered online, not least via social media.

Māori and Pākehā partnership can perhaps only be realised through grassroots movements due to the bureaucratic tokenism of government institutions. It seems likely that

such movements, exemplified by ecological Māori agriculture, need not only diversification of ideas but of practices too.

By inviting local community members to participate and express their unique Māori identity culturally as well as spiritually[25], ecological Māori agriculture could incorporate the procedural transparency and successful resource management perennially absent in their government's quotidian praxis.

Enveloping Kahurangi, Stacey and Frida as part of a Māori ecological agricultural movement and positioning this movement in Phase Two: "Diversification", enables a better understanding of their interconnectedness. What on the surface looks like a group of unrelated idiosyncrasies, emerge as nodes in a wider network that aspire towards a common goal, if not through personal communication, then by auxiliary communication through an ontological correspondence of ideas and worldviews. They are three seeds awaiting the right conditions for their movement to grow and spawn the next phase of their version of sustainable development.

[25] If such a dichotomy is necessary or even demonstrable.

# 9. CONCLUDING REMARKS

## 9.1 Discussing the outcome

I have presented evidence that supports the notion that the Indigenous Māori population of Aotearoa/New Zealand conceptualises a relationship with their environment that promotes the idea of being integral to a local ecosystem. As *tangata whenua* (people of the land), they express and adhere to the concept of *kaitiakitanga* (guardianship/stewardship) which enforces active participation in maintaining the ecosystem and enhancing its *mauri* (life force). This remedy against the rose-tinted myopia Anderson cautions us as the core issue of anthropogenic degradation of the environment (1996: 4).

Anderson apprises us of the crucial component of successful resource management, namely the incorporation of human emotions into moral codes centred around ecologically sound practices (ibid.: 166). I have provided evidence of how the Māori worldview succeeds at this. Their relationship to the environment is based on their concepts of *whakapapa* (genealogy) which highlights a direct bloodline to the pantheon of deities responsible for creating the world, and importantly, the very soil they walk on and grow their food in.

As such, Māori view the soil as a living thing. This notion is part of the intergenerational knowledge system, *mātauranga* (lit. knowledge) which builds the Māori identity by interweaving mythology, *tikanga* (societal lore), whakapapa and behaviour protocols. This is embodied and asserted through daily practices such as the *karakia* (giving thanks) and the use of *te reo Māori* (the Māori language). They act as enhancers of the spiritual connection to the land and boost the emotional component of the Māori moral code.

Being filled with semiotic dualisms, te reo is also described as a conveyer of the metaphysical layers of Māori worldviews that juxtapose the Māori mindset with the Western counterpart. This refers to the fundamental difference between Māori worldviews and the underlying philosophical ontological presuppositions within modern globalist society under neoliberalism. The former puts humans within their concept of “Nature” and their local environment and identifies as caretakers of it. The latter enforces a mindset of dualism where “Nature” exists outside of the mind of the human individual and as such, is conceptualised as separate from humans.

Such a dualistic mindset is fundamental to the justification of a relationship of extraction of resources from the environment, for the benefit of humans, in which negative impact is considered as “externalities” that can be ignored (Anderson, 1996: 85).

It is the foundation of these aforementioned worldviews that orient some Māori toward principles of permaculture design, an approach to, primarily, environmental spaces that maximise the aspects of an ecosystem for human dwellers while improving on the whole system through a holistic approach (Leahy, 2021: 2-3). These principles were appropriated from Indigenous practices without overtly stating so (ibid.,: 176-177). I would also argue that the incorporation and vocalisation of such worldviews explain how Māori "re-enchant" their land use (cf. Wright, 2021) while simultaneously acting as a reinforcement of the modern Māori identity employing traditional values in ways that reject the apolitical side of the permaculture movement (Leahy, 2021: 99-101).

Early adopters of permaculture in Aotearoa/New Zealand saw a need to adjust the methods of pedagogy in the light of the bicultural context. Being inspired by the biodynamic approach of perceiving the soil as imbued with spiritual qualities, additional layers were added to their expanding permaculture design course network. Encounters with politically engaged Māori women led to what I call the first phase of ecological Māori agriculture. This initial phase, which I call the "Cross-Pollination" phase, can be seen as an attempt to take control back in terms of land use and *kai* (food) *sovereignty* and decoupling Māori land use from the Western frameworks of neoliberal export-focused agriculture. In this phase, Māori values found a new possibility for reinvigoration, implementation and growth.

Throughout the companionship in this first phase, two facts emerged. Firstly, permaculture offered design principles that served a function within the Māori traditions of land use while also being aligned with the aspiration of kai sovereignty. Secondly, the permaculture movement did not offer a community that supported the aspiration of *tino rangatiratanga* (self-determination). From the material I gathered, it is unclear to what degree the two spiritual schools of thought, i.e. biodynamics and the Māori belief system, contributed to this misalignment. I have not seen any indicators of the spiritual component being anything but a facilitator for interfacing between the two.

This led to the movement being isolated. But a new generation was about to join. Kahurangi and Stacey grew up in the Internet era where access to information is widespread and technological influence in the form of social media enables new ways for movements to evolve and spread. This brought on phase two of ecological Māori agriculture where we see a decentralised connection between Māori and permaculture. I have dubbed this phase "Diversification". In this phase, we see a diversity of methods and inputs of knowledge systems. In a similar vein, some practical concessions have been made, the composting

toilet–a common cornerstone of ecological agriculture–has been compromised in the interest of attracting a wider audience.

Following the lockdowns in Aotearoa/New Zealand during the COVID-19 pandemic alongside rampant climate crisis-related effects, the state of the movement during my fieldwork was that of transitioning, borderline hibernation.

Harmsworth and Awatere (2013) helped navigate Māori aspirations in ecological agriculture. Anderson aided the understanding of what makes an eco-centric moral code work in a community of people, i.e. that religion has been a brilliant emotional drive towards reciprocal relationships between people and their environment. However, religion is not thereby the only way to connect people on a deep emotional level. The key is a diversity of people coaxed by a similar moral code to maintain a reciprocal relationship with the ecosystem we inhabit.

In the context of this thesis, I would argue that the coexistence of two spiritual schools–Biodynamic and Māori worldviews–that are similar but non-fungible and non-mergeable is impossible within a single community, in the long run at least. The "Ecological sanity" (Anderson, 1996: 27) requires us to make decisions for long-term gains over short-term benefits.

A huge issue for Māori, especially within this context, is access to land. Many have no legal access to their land, others have no access to financial backing for their land-use projects. The government is responsible for this long-winded debacle. Māori want to incorporate their worldviews into their land use and Western frameworks limit their options to such a degree that in effect, they are forced into short-sightedness instead of their traditional long-term perspective.

Ecological Māori agriculture is an act of resistance against this impasse, which my participants categorised as yet another example of colonial remnants in Aotearoa/New Zealand. The government proliferates perpetual growth at every corner and any cost. Conversely, the movement described in this study valorises a step back from that tendency.

Ecological Māori agriculture shares what Mark Whitehead (2013) summarised as the two fundamental principles of degrowth, that economic activity be limited to the capacity of the biosphere and that economic activity should focus on the enhancement of human well-being rather than the pursuit of perpetual wealth (ibid.: 142). As such, I have categorised them as a sub-group of the larger Degrowth movement (see Figure 1)

The Māori traditions already evoke participation in urban gardening and community gardens, but as Hawes (et al., 2024) discovered, such endeavours are insufficient from a

sustainability point of view. If ecological Māori agriculture aspire to improve ecological conditions above the abilities of impassioned individuals in ways that previous literature have aligned with *kaitiakitanga* (guardianship/stewardship), it needs to grow its participatory reach and attract people by continuing the diversification present in the ongoing phase evident in my ethnographic material. I believe that it is paramount for both the advancement of kai sovereignty and tino rangatiratanga.

On the governmental level, structural and representational issues remain circumvented and solutions tend toward tokenism at best. Notwithstanding, I agree with Anderson, that grassroots movements will continue to pave the way, but need desperately to find ways to attract more people to their moral code.

Just like Karyn Stein (2016; 2018) has previously shown, agroecological approaches can offer puissant tools empowering Māori. My study adds to these findings by showing that ecological Māori agriculture can be interpreted as instrumental in paving the road towards tino rangatiratanga. In and of itself, this study shows that the implementation of ecological agriculture that harnesses kai sovereignty benefits from incorporating the spiritual components of Indigenous worldviews, such as *te ao Māori* (the Māori worldview).

Building on previous studies on similar topics (Harmsworth & Awatere 2013; Huambachano 2019; Rangiwai 2018 and Smith & Hutchings 2024) the Indigenous fight for tino rangatiratanga can be seen as fundamentally aligned with a critical approach to Western politics and the philosophical ontology of the neoliberal globalist machinery and simultaneously offer solutions to the environmental degradation left in their path.

The apolitical tendency within the contemporary permaculture movement (Leahy, 2021: 98-101) is a fundamental reason for the concurrent second phase of the ecological Māori agriculture movement. By diversifying its philosophical and methodological approach, the movement is able to add concrete social and Indigenous aspirations lacking in the permaculture nest it grew out of. Nonetheless, since it has proved a potent tool for kai sovereignty, I believe that permaculture will continue to play an integral role within the movement depicted in this thesis.

I further believe that the compromise of getting rid of the composting toilet is the most considerable loss of the current phase of the movement. Not only is it a cornerstone of their philosophical applications, it is also an irreplaceable part of their utopian vision.

The metaphor is strikingly obvious, we need to deal with our waste, both individual and collective! From the Māori point of view, it can be said that we need to compost

colonialism to fertilise the next generation of ecologically-minded individuals that leave a planet flourishing and habitable for even more distant generations of humans.

## 9.2 Future research

As the current phase of ecological Māori agriculture has been identified as transitory, and participants showcase the early signs of diversifying and developing, future research should first and foremost assess the progress of this movement against the background provided here.

After such progress has been evaluated, described and analysed, it will be interesting to see if permaculture design persists[26] within the movement or if it has given way for a total skin-shedding procedure. It could be imagined that the pull towards building community alongside the experiences of colonial remnants when collaborating with Pākehā leads to a complete deconstruction of the bicultural context. If a whole new identity is developed through separation rather than partnership, my distinction of ecological Māori agriculture would be turned into an epitaph of Māori-Pākehā collaboration towards an alternative society.

These ponderings and risk assessments need further studies on the matter to be ascertained. I sincerely hope that future findings report on a strengthened relationship between Māori and Pākehā rather than the bleak undertone often encountered during my fieldwork in Aotearoa/New Zealand.

Referring back to the Sustainable Development Quadrant (Figure 1), further studies on the remaining parts of that quadrant could yield interesting material. Analysing the government of Aotearoa/New Zealand and their work interaction with the Māori population could further nuance the discussion offered here.

[26] Or for that matter, if the permaculture movement develops toward the integration of adjacent social movements the way Leahy recommends (2021: 99-100).

# 10. BIBLIOGRAPHY


Altieri, M. A. (1995). *Agroecology: The Science of Sustainable Agriculture* (2nd ed.). Westview Press, A Member of the Perseus Books Group.

Altieri, M. A., & Toledo, V. M. (2011). The agroecological revolution in Latin America: Rescuing nature, ensuring food sovereignty and empowering peasants. *Journal of Peasant Studies*, *38*(3), 587–612. https://doi.org/10.1080/03066150.2011.582947

Alzate, C., Mertens, F., Fillion, M., & Rozin, A. (2019). The study and use of traditional knowledge in agroecological contexts. *La Revista de La Facultad de Ciencias Agrarias de La Universidad Nacional Del Cuyo*, *51*(1), 337–351.

Anderson, B. (2016). *Imagined Communities* (2nd ed.). Verso.

Anderson, E. N. (1996). *Ecologies of the Heart: Emotion, Belief, and the Environment*. Oxford University Press.

Barnes: (2006). *Capitalism 3.0: A guide to reclaiming the commons* (1. ed). Berrett-Koehler.

Basweti, E. A., Mata, D. J., Goff, B. M., Kotcon, J. B., & Bryan, W. B. (2018). External Inputs and Livestock for Organic Hill Land Farming Systems in Appalachia. *Agrosystems, Geosciences & Environment*, *1*(1), 1–10. https://doi.org/10.2134/age2018.07.0017

Bezner Kerr, R., Young, S. L., Young, C., Santoso, M. V., Magalasi, M., Entz, M., Lupafya, E., Dakishoni, L., Morrone, V., Wolfe, D., & Snapp, S. S. (2019). Farming for change: Developing a participatory curriculum on agroecology, nutrition, climate change and social equity in Malawi and Tanzania. *Agriculture and Human Values*, *36*(3), 549–566. https://doi.org/10.1007/s10460-018-09906-x

Biodynamics New Zealand. (2022). *Demeter Certified Biodynamic Producers* [Official Demeter Organisation Website for New Zealand]. Biodynamics New Zealand. https://biodynamic.org.nz/demeter/demeter-producers?fbclid=IwZXh0bgNhZW0CM

TAAAR3WlwIYbPbyFtd3vZPbLPjWH91VlnsdZJQo-5YdtVXuWjzDaksrnffdMEU_aem_AZvQjpCV6HHBWV99VmIq4HDQtW0hQwQ0MPP67d41N-aFqeq4EOqNuFpr7OsmVFb7lPahKLy58syIXB4S6jrD7g0b

Blommaert, J., & Jie, D. (2010). *Ethnographic Fieldwork: A Beginner's Guide* (eBook). Multilingual Matters.

Bottazzi, P., Reyes-García, V., Crespo, D., Marthez-Stiefel, S.-L., Galvarro, H. S., Jacobi, J., Clavijo, M., & Rist, S. (2014). Productive Diversification and Sustainable Use of Complex Social-Ecological Systems: A Comparative Study of Indigenous and Settler Communities in the Bolivian Amazon. *Agroecology and Sustainable Food Systems*, *38*(2), 137–164. https://doi.org/10.1080/21683565.2013.841606

Butler, J. (2006). *Gender trouble: Feminism and the subversion of identity*. Routledge.

Carolan, M. (2020). *Society and the Environment: Pragmatic Solutions to Ecological Issues* (3rd ed.). Routledge. https://doi.org/10.4324/9781003004912

Cattaneo, C., Marull, J., & Tello, E. (2018). Landscape Agroecology. The Dysfunctionalities of Industrial Agriculture and the Loss of the Circular Bioeconomy in the Barcelona Region, 1956–2009. *Sustainability*, *10*(12), 4722. https://doi.org/10.3390/su10124722

Clifford, J. (1988). *The Predicament of Culture: Twentieth-Century Ethnography, Literature, and Art*. Harvard University Press.

Clifford, J., & Marcus, G. E. (1986). *Writing culture: The poetics and politics of ethnography: A School of American Research advanced seminar*. University of California Press.

Connell, R. W. (2005). *Masculinities* (2nd ed.). University of California Press.

Coq-Huelva, D., Higuchi, A., Alfalla-Luque, R., Burgos-Morán, R., & Arias-Gutiérrez, R. (2017). Co-Evolution and Bio-Social Construction: The Kichwa Agroforestry Systems (Chakras) in the Ecuadorian Amazonia. *Sustainability*, *9*(10), 1920. https://doi.org/10.3390/su9101920

Coriolis. (2023). *Finding the Way: Emerging and future platforms in New Zealand's bioeconomy (the Coriolis Report)* (Government Report June 2023; v1.01). Ministry of Business Innovation & Employment. https://www.mbie.govt.nz/business-and-employment/economic-development/circular-economy-and-bioeconomy/#:~:text=Finding%20the%20way%3A%20Emerging%20and%20future%20platforms%20in%20New%20Zealand%E2%80%99s%20bioeconomy%20%5BPDF%2C%202.2%20MB%5D

Corvellec, H., Stowell, A. F., & Johansson, N. (2022). Critiques of the circular economy. *Journal of Industrial Ecology*, *26*(2), 421–432. https://doi.org/10.1111/jiec.13187

Cristofoli, N. L., Lima, A. R., Tchonkouang, R. D. N., Quintino, A. C., & Vieira, M. C. (2023). Advances in the Food Packaging Production from Agri-Food Waste and By-Products: Market Trends for a Sustainable Development. *Sustainability*, *15*(7), 6153. https://doi.org/10.3390/su15076153

Crutzen: J., & Stoermer, E. F. (2013). The Anthropocene. In L. Robin, S. Sörlin, & P. Warde (Eds.), *The Future of Nature: Documents of Global Change* (pp. 483–490). Yale University Press.

Delahunty, C. (2020, August 23). Moving from tokenism to respect. *E-Tangata*, *Comment&Analysis*. https://e-tangata.co.nz/comment-and-analysis/moving-from-tokenism-to-respect/

DESA - Indigenous Peoples. (n.d.). *The effects of climate change on indigenous peoples* [Official United Nations Website]. Department of Economic and Social Affairs - Indigenous Peoples - Climate Change. https://www.un.org/development/desa/indigenouspeoples/climate-change.html

Diemont, S. A. W., Martin, J. F., Levy-Tacher, S. I., Nigh, R. B., Lopez: R., & Golicher, J. D. (2006). Lacandon Maya forest management: Restoration of soil fertility using native tree species. *Ecological Engineering*, *28*(3), 205–212.

https://doi.org/10.1016/j.ecoleng.2005.10.012

Dinica, V. (2021). Transitioning to what? The role of genetic-engineering in New Zealand's (circular) bioeconomy debates. *Journal of Environmental Policy & Planning*, *23*(2), 194–212. https://doi.org/10.1080/1523908X.2021.1893161

Donella H. Meadows, Jorgen Randers, & Dennis L. Meadows. (2013). The Limits to Growth. In L. Robin, S. Sörlin, & P. Warde (Eds.), *The Future of Nature: Documents of Global Change* (pp. 101–116). Yale University Press.

Duvall, C. S. (2008). Classifying Physical Geographic Features: The Case of Maninka Farmers in Southwestern Mali. *Geografiska Annaler. Series B, Human Geography*, *90*(4), 327–348. JSTOR.

Eller, J. D. (2016). *Cultural anthropology: Global forces, local lives* (Third edition). Routledge.

Emmett, R. S., & Nye, D. E. (2017). *The Environmental Humanities: A Critical Introduction*. The MIT Press.

European Commission Directorate-General for Research Innovation. (2018). *A sustainable bioeconomy for Europe – Strengthening the connection between economy, society and the environment – Updated bioeconomy strategy*. Publications Office. https://doi.org/doi/10.2777/792130

Feleke, S., Cole, S. M., Sekabira, H., Djouaka, R., & Manyong, V. (2021). Circular Bioeconomy Research for Development in Sub-Saharan Africa: Innovations, Gaps, and Actions. *Sustainability*, *13*(4), 1926. https://doi.org/10.3390/su13041926

Fetting, C. (2020). *The European Green Deal* [ESDN Report]. ESDN Office.

Figueroa-Helland, L., Thomas, C., & Aguilera, A. P. (2018). Decolonizing Food Systems: Food Sovereignty, Indigenous Revitalization, and Agroecology as Counter-Hegemonic Movements. *Perspectives on Global Development and Technology*, *17*(1–2), 173–201. https://doi.org/10.1163/15691497-12341473

Foschi, E., Aureli, S., & Paletta, A. (2023). Linking bioeconomy, circular economy, and sustainability: Trends, gaps and future orientation in the bio-based and biodegradable plastics industry. *European Journal of Social Impact and Circular Economy*, 16-31 Paginazione. https://doi.org/10.13135/2704-9906/7154

Gallegos-Riofrio, C. A., Carrasco-Torrontegui, A., Riofrio, L. A., Waters, W. F., Iannotti, L. L., Pintag, M., Caranqui, M., Ludeña-Maruri, G., Burneo, J. N., & Méndez, V. E. (2022). Terraces and ancestral knowledge in an Andean agroecosystem: A call for inclusiveness in planetary health action. *Agroecology and Sustainable Food Systems*, *46*(6), 842–876. https://doi.org/10.1080/21683565.2022.2079040

Gebru, B. M., Wang, S. W., Kim, S. J., & Lee, W.-K. (2019). Socio-Ecological Niche and Factors Affecting Agroforestry Practice Adoption in Different Agroecologies of Southern Tigray, Ethiopia. *Sustainability*, *11*(13), 3729. https://doi.org/10.3390/su11133729

Günel, G., Varma, S., & Watanabe, C. (2020, June 9). A Manifesto for Patchwork Ethnography. *Member Voices*, *Fieldsights*. https://culanth.org/fieldsights/a-manifesto-for-patchwork-ethnography

Hall, D. (2021). Farming and Māori, New Zealand's Indigenous People. In D. Hall, *Agricultural Economics and Food Policy in New Zealand* (pp. 339–354). Springer International Publishing. https://doi.org/10.1007/978-3-030-86300-5_22

Harmsworth, G. R., & Awatere, S. (2013). Indigenous Māori Knowledge And Perspectives Of Ecosystems. In Dymond, John R. (Ed.), *Ecosystem Services in New Zealand: Conditions and Trends* (pp. 274–286). Manaaki Whenua Press. https://doi.org/10.7931/DL1MS3

Hastrup, K. (1990). The Ethnographic Present: A Reinvention. *Cultural Anthropology*, *5*(1), 45–61. http://www.jstor.org/stable/656503

Hathaway, M. D. (2016). Agroecology and permaculture: Addressing key ecological

problems by rethinking and redesigning agricultural systems. *Journal of Environmental Studies and Sciences*, *6*(2), 239–250. https://doi.org/10.1007/s13412-015-0254-8

Hawes, J. K., Goldstein, B. P., Newell, J. P., Dorr, E., Caputo, S., Fox-Kämper, R., Grard, B., Ilieva, R. T., Fargue-Lelièvre, A., Poniży, L., Schoen, V., Specht, K., & Cohen, N. (2024). Comparing the carbon footprints of urban and conventional agriculture. *Nature Cities*. https://doi.org/10.1038/s44284-023-00023-3

Hecht, S. B. (1995). The Evolution of Agroecological Thought. In M. A. Altieri, *Agroecology: The Science of Sustainable Agriculture* (2nd ed.: 1–19). Westview Press, A Member of the Perseus Books Group.

Héger, M., Noiset, P., Nkoba, K., & Vereecken, N. J. (2023). Traditional ecological knowledge and non-food uses of stingless bee honey in Kenya's last pocket of tropical rainforest. *Journal of Ethnobiology and Ethnomedicine*, *19*(1), 42. https://doi.org/10.1186/s13002-023-00614-3

Hornborg, A. (2009). In Defence of the Nature/Culture Distinction: Why anthropology can neither dispense with, nor be reduced to, semiotics. *Cognitive Semiotics*, *4*, 92–115.

Huambachano, M. (2019). Indigenous food sovereignty: Reclaiming food as sacred medicine in Aotearoa New Zealand and Peru. *New Zealand Journal of Ecology*, *43*(3). https://doi.org/10.20417/nzjecol.43.39

Intergovernmental Panel on Climate Change (IPCC). (2022). *Climate Change and Land: IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*. Cambridge University Press; Cambridge Core. https://doi.org/10.1017/9781009157988

Irwin, R. (2021). Rewilding policy futures: Maori whakapapa and the ecology of the subject. *Policy Futures in Education*, *19*(3), 307–323.

https://doi.org/10.1177/1478210320980580

Jackson, M. (1987). The Maori and the Criminal Justice System: A New Perspective—He Whaipaanga Hou. *Policy and Research Division, Department of Justice, Wellington, New Zealand*.

Jackson: T. (2016). *The Conduct of Inquiry in International Relations: Philosophy of science and its implications for the study of world politics* (2nd ed.). Routledge.

Jacobi, J., Schneider, M., Pillco Mariscal, M., Huber, S., Weidmann, S., Bottazzi, P., & Rist, S. (2015). Farm Resilience in Organic and Nonorganic Cocoa Farming Systems in Alto Beni, Bolivia. *Agroecology and Sustainable Food Systems*, *39*(7), 798–823. https://doi.org/10.1080/21683565.2015.1039158

Jan Salick & Anja Byg (Eds.). (2007). *Indigenous Peoples and Climate Change*. Tyndall Centre for Climate Change Research. https://www.researchgate.net/publication/49595360_Indigenous_Peoples_and_Climate_Change

Johnson, B. (2013). *Zero waste home: The ultimate guide to simplifying your life by reducing your waste* (First Scribner trade paperback edition). Scribner.

Kenworthy, A. (2021, October 5). What is the circular economy? *Sustainable Business Network - News & Insights*, *Online*. https://sustainable.org.nz/learn/news-insights/what-is-the-circular-economy/

Kingi, T., Wakelin, S., Journeaux, P., & West, G. (2023). Collective Land Tenure Systems and Greenhouse Gas Mitigation among Māori Farmers in Aotearoa New Zealand. In P. D'Arcy & D. D. Da-Wei Kuan (Eds.), *Islands of Hope: Indigenous Resource Management in a Changing Pacific* (pp. 245–261). Australian National University Press. DOI: 10.22459/IH.2023

Kovach, M. (2009). *Indigenous Methodologies: Characteristics, Conversations and Contexts*. University of Toronto Press Incorporated.

La Via Campesina. (2021). *Food Sovereignty, a Manifesto for the Future of Our Planet*. La Via Campesina. https://viacampesina.org/en/food-sovereignty-a-manifesto-for-the-future-of-our-planet-la-via-campesina/

Law, R. (1997). Masculinity, Place, and Beer Advertising in New Zealand: The Southern Man Campaign. *New Zealand Geographer*, *53*(2), 22–28. https://doi.org/10.1111/j.1745-7939.1997.tb00495.x

Leahy, T. (2021). *The Politics of Permaculture* (PDF). Pluto Press.

Lewellen, T. C. (2002). *The Anthropology of Globalization: Cultural Anthropology Enters the 21st Century*. Bloomsbury Publishing USA. http://ebookcentral.proquest.com/lib/lund/detail.action?docID=497242

Lockhart, C., Houkamau, C. A., Sibley, C. G., & Osborne, D. (2019). To Be at One with the Land: Māori Spirituality Predicts Greater Environmental Regard. *Religions*, *10*(7), 427. https://doi.org/10.3390/rel10070427

Magallanes, C. I. (2010). THE USE OF TANGATA WHENUA AND MANA WHENUA IN NEW ZEALAND LEGISLATION: ATTEMPTS AT CULTURAL RECOGNITION. *NZ Association of Comparative Law Yearbook*, *16*, 83–102.

Malinowski, B. (1922). *Argonauts of the Western Pacific: An account of native enterprise and adventure in the archipelagoes of Melanesian New Guinea*. Routledge & Kegan Paul.

Malpass, L. (2023, November 24). The Luxon government readies for take-off. *The Post*. https://www.thepost.co.nz/politics/350118661/luxon-government-readies-take

Marcus, G. E. (1995). Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography. *Annual Review of Anthropology*, *24*, 95–117. JSTOR.

Matike Mai Aotearoa. (2016). *He Whakaaro Here Whakaumu Mõ Aotearoa—The Report of Matike Mai Aotearoa—The Independent Working Group on Constitutional*

*Transformation*. Matike Mai Aotearoa. http://www.converge.org.nz/pma/MatikeMaiAotearoaReport.pdf

Mcgranahan, C. (2018). Ethnography Beyond Method: The Importance of an Ethnographic Sensibility. *Sites: A Journal of Social Anthropology and Cultural Studies*, *15*(1). https://doi.org/10.11157/sites-id373

McManus, B. (2010). An Integral Framework for Permaculture. *Journal of Sustainable Development*, *3*(3), 162–174.

Mere Kepa, Benjamin Pittman, Marcus Williams, & Peter Bruce-Iri. (2021). WHAKAORA NGA WHENUA WHÄMA: UTILISING MÄTAURANGA MÄORI AND WESTERN SCIENCE TO PROTECT AND RESTORE THE SOIL ON RURAL FARMS IN TE TAI TOKERAU. *Scope: Kaupapa Kāi Tahu*, *6*, 14–21.

Millenium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*.

Ministry for Primary Industries (MPI). (2023, May 26). *Introduction to Māori agribusiness* [Official New Zealand government website]. Ministry for Primary Industries - Manatū Ahu Matua. https://www.mpi.govt.nz/funding-rural-support/maori-agribusiness-funding-support/introduction-to-maori-agribusiness/

Ministry for the Environment - Manatū Mō Te Taiao. (2022). *Te hau mārohi ki anamata—Towards a productive, sustainable and inclusive economy: Aotearoa New Zealand's first emissions reduction plan* (ME 1639). Ministry for the Environment - Manatū Mō Te Taiao. https://environment.govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/

Ministry for the Environment - Manatū Mō Te Taiao. (2023, April 11). *Agriculture emissions and climate change* [Official New Zealand government website]. Environment. https://environment.govt.nz/facts-and-science/climate-change/agriculture-emissions-cl

imate-change/

Moeke-Pickering, T., Heitia, M., Heitia, S., Karapu, R., & Cote-Meek, S. (2015). Understanding Māori food security and food sovereignty issues in Whakatāne. *MAI Journal*, *4*(1), 29–42.

Mollison, B. C., & Holmgren, D. (1978). *Permaculture 1: A perennial agricultural system for human settlements*. Transworld Publishers.

Moore, A., Johnson, M., Lord, J., Coutts, S., Pagan, M., Gbolagun, J., & Hall, G. B. (2016). Applying spatial analysis to the agroecology-led management of an indigenous farm in New Zealand. *Ecological Informatics*, *31*, 49–58. https://doi.org/10.1016/j.ecoinf.2015.11.009

MoRST. (2007). *Vision Mātauranga: Unlocking the Innovation Potential of Māori Knowledge, Resources and People*. MoRST.

Morton, B. (2011, August 29). Falser Words Were Never Spoken. *The New York Times*. https://www.nytimes.com/2011/08/30/opinion/falser-words-were-never-spoken.html

NASA. (n.d.). *The Causes Of Climate Change*. [Official US Government Website]. https://science.nasa.gov/climate-change/causes/

Orozco-Ramírez, Q., Bocco, G., & Solís-Castillo, B. (2020). *Cajete* maize in the Mixteca Alta region of Oaxaca, Mexico: Adaptation, transformation, and permanence. *Agroecology and Sustainable Food Systems*, *44*(9), 1162–1184. https://doi.org/10.1080/21683565.2019.1646374

Osbahr, H., & Allan, C. (2003). Indigenous knowledge of soil fertility management in southwest Niger. *Geoderma*, *111*(3–4), 457–479. https://doi.org/10.1016/S0016-7061(02)00277-X

O'Sullivan, M. (2024, March 1). Why Are Farmers Protesting Around The World? *Forbes*. https://www.forbes.com/sites/mikeosullivan/2024/03/01/why-are-farmers-protesting-around-the-world/

Para Kore. (n.d). *About Us* [Official NGO Website]. Para Kore. https://www.parakore.maori.nz/about-us/

Para Kore Media. (2020, July 9). *Zero Waste Network: Tikanga Māori and Zero Waste* [Video]. Youtube. https://www.youtube.com/watch?v=p7_in2CD0Nw

Para Kore Media. (2021, August 26). *Wairākau Zui co-presented by Lani Rotzler-Purewa and Dr Jessica Hutchings*. [Video]. Youtube. https://www.youtube.com/watch?v=CULqgQehc6k

Park, J., Scott, K., Cocklin, C., & Davis: (2002). The Moral Life of Trees: Pastoral Farming and Production Forestry in Northern New Zealand. *Journal of Anthropological Research*, *58*(4), 521–544. JSTOR.

Rameka, L. (2018). A Māori perspective of being and belonging. *Contemporary Issues in Early Childhood*, *19*(4), 367–378. https://doi.org/10.1177/1463949118808099

Rangiwai, B. (2018). Ko au ko te taiao, ko te taiao ko au – I am the environment and the environment is me: A Māori theology of the environment. *Te Kaharoa*, *11*, 638–652.

Resilience National Science Challenge. (2024, February 21). *Webinar: He Pito Mata—Food System Security & Resilience*. [Video]. Youtube. https://www.youtube.com/watch?v=5Izlv0m8kjw

Rigolot, C., & Quantin, M. (2022). Biodynamic farming as a resource for sustainability transformations: Potential and challenges. *Agricultural Systems*, *200*, 103424. https://doi.org/10.1016/j.agsy.2022.103424

Royal, T. A. C. (2005a, February 8). *Hawaiki* [Official New Zealand government website]. Te Ara - the Encyclopedia of New Zealand. https://teara.govt.nz/en/hawaiki

Royal, T. A. C. (2005b, February 8). *Māori* [Official New Zealand government website]. Te Ara - the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/en/maori/print

Sahle, M., Yeshitela, K., & Saito, O. (2018). Mapping the supply and demand of Enset crop to improve food security in Southern Ethiopia. *Agronomy for Sustainable*

*Development*, *38*(1), 7. https://doi.org/10.1007/s13593-017-0484-0

Said, E. W. (2003). *Orientalism*. Penguin.

Saylor, C. R., Alsharif, K. A., & Torres, H. (2017). The importance of traditional ecological knowledge in agroecological systems in Peru. *International Journal of Biodiversity Science, Ecosystem Services & Management*, *13*(1), 150–161. https://doi.org/10.1080/21513732.2017.1285814

Scribe Ltd. (2003). *Tā Moko—Lines of Descent*. Kina Film Productions Ltd.

Smith, C., Tinirau, R., Mana, H. R.-T., Tawaroa, M., Barnes, H. M., Cormack, D., & Fitzgerald, E. (2021). *Whakatika: A Survey of Māori Experiences of Racism* (Research Survey 978-0-473-56653–1). Te Atawhai o Te Ao Charitable Trust. https://teatawhai.maori.nz/wp-content/uploads/2021/03/Whakatika-Report-March-2021.pdf

Smith (Waitaha, Kāti Māmoe, Kāi Tahu), J., & Hutchings (Ngāti Huirapa And Gujarat, India), J. (2024). Feeding Indigenous Aotearoa better. *Journal of the Royal Society of New Zealand*, 1–19. https://doi.org/10.1080/03036758.2024.2327420

Solomon, N. (2008). Was the New Zealand government justified in voting against the Declaration on the Rights of Indigenous Peoples? *Te Kāhui Kura Māori*, *0*(1). https://nzetc.victoria.ac.nz/tm/scholarly/tei-Bid001Kahu-t1-g1-t4.html

Stein, K., Mirosa, M., & Carter, L. (2018). Māori women leading local sustainable food systems. *AlterNative: An International Journal of Indigenous Peoples*, *14*(2), 147–155. https://doi.org/10.1177/1177180117753168

Stein, K., Mirosa, M., Carter, L., & Johnson, M. (2016). CASE STUDIES OF FOOD SOVEREIGNTY INITIATIVES AMONG THE MĀORI OF AOTEAROA (NEW ZEALAND). In M. Rawlinson & C. Ward (Eds.), *The Routledge Handbook of Food Ethics* (pp. 366–376). Routledge.

Strathern, M. (1990). *The gender of the gift: Problems with women and problems with society*

*in Melanesia*. University of California Press.

Sustainability the Māori way: Ex-miner guides Canterbury farmers on conservation. (2018, September 14). [Podcast]. In *Country Life*. RNZ. https://www.rnz.co.nz/national/programmes/countrylife/audio/2018662586/sustainability-the-maori-way-ex-miner-guides-canterbury-farmers-on-conservation

Tan, E. C. D., & Lamers: (2021). Circular Bioeconomy Concepts—A Perspective. *Frontiers in Sustainability*, *2*, 701509. https://doi.org/10.3389/frsus.2021.701509

Te Waka Kai Ora. (2022). *He Kai Te Rongoā He Rongoā Te Kai: Report Into The Evidence Presented By Te Waka Kai Ora To The Waitangi Tribunal's Inquiry To The Wai 262 Claim*. Papawhakaritorito Trust: Kaitoke.

The Ellen MacArthur Foundation. (n.d.). *The circular economy in detail* [Official NGO Website]. EllenMacArthurFoundation.Org. https://www.ellenmacarthurfoundation.org/the-circular-economy-in-detail-deep-dive

The Office of Māori Development, Otago University. (n.d.a). *Societal lore (tikanga) in Māori culture* [Official University Website]. Otago.Ac.Nz. https://www.otago.ac.nz/maori/world/tikanga/lore

The Office of Māori Development, Otago University. (n.d.b). *Whakapapa* [Official University Website]. Otago.Ac.Nz. https://www.otago.ac.nz/maori/world/tikanga/whakapapa

United Nations. (2007). *United nations declaration on the rights of indigenous peoples: Resolution /*. http://digitallibrary.un.org/record/609197

Vallejo-Ramos, M., Moreno-Calles, A. I., & Casas, A. (2016). TEK and biodiversity management in agroforestry systems of different socio-ecological contexts of the Tehuacán Valley. *Journal of Ethnobiology and Ethnomedicine*, *12*(1), 31. https://doi.org/10.1186/s13002-016-0102-2

Vivien, F.-D., Nieddu, M., Befort, N., Debref, R., & Giampietro, M. (2019). The Hijacking of

the Bioeconomy. *Ecological Economics*, *159*, 189–197. https://doi.org/10.1016/j.ecolecon.2019.01.027

Whitehead, M. (2013). Degrowth or Regrowth? *Environmental Values*, *22*(2), 141–145. JSTOR.

Workaway (n.d.). *Travel differently, connect globally* [Official Organisation Website]. Workaway.Info. https://www.workaway.info/

Wright, J. (2021). Re-Enchanting Agriculture: Farming with the Hidden Half of Nature. In J. Wright (Ed.), *Subtle Agroecologies: Farming With the Hidden Half of Nature* (pp. 3–20). CRC Press. https://doi.org/10.1201/9780429440939