# Para Kore: An alternative voice for a zero waste world.

A research project presented to Massey University
in partial fulfilment of the requirements for the degree of
Master of International Development

College of Humanities and Social Sciences

**Jane Banfield**

**2019**

Institute of Development Studies

Massey University

Manawatu

New Zealand.

## Abstract

Issues of solid waste pollution are viewed as a serious threat to the global Sustainable Development Goals. Waste minimisation in New Zealand centres around a loose government policy framework underpinned by a neoliberal belief in market-driven solutions from the business sector. The traditional 'waste hierarchy' model (Reduce-Reuse-Recycle-Recover) remains at the core of legislation, while the more recently developed 'Circular Economy' model is increasingly viewed by both state and business sector as offering new hope. However, strategies for waste minimisation in New Zealand are still failing to reduce waste, as exemplified by the annual growth in waste-to-landfill rates.

Given the failures mentioned above, this research looked to investigate the merits of an alternative indigenous approach to waste minimisation based upon a different epistemology. Framed by a hope-filled post-development outlook, an in-depth critique of current literature regarding mainstream waste minimisation strategies was undertaken alongside a qualitative case study with Para Kore Marae Inc., a Māori not-for-profit organisation active in 12 regions of New Zealand.

The study revealed there are contradictions within mainstream waste minimisation strategies. Resolution of waste issues is constrained by political adherence to neoliberal economic theory which promotes continuous growth in production and consumption. A dominant metanarrative around waste has developed allowing the collective impact of factors incompatible with waste eradication to remain unacknowledged and unaddressed by state actors.

The Para Kore model contrasts significantly with technocentric state-led approaches. Para Kore Marae Inc. views solid waste issues through the spiritual lens of *kaitiakitanga*, the relationship and consequent responsibility of each person to the natural world. For participants adopting a Para Kore approach, intrinsic motivation developed to align waste reduction behaviours with personal values and cultural principles. In addition to reducing waste-to-landfill, the Para Kore approach resulted in holistic improvements to individual and community wellbeing. Cost and time constraints to waste reduction were not found to be an issue. The most significant challenge to the model was 'burnout' experienced by the 'champion' facilitators. The Para Kore approach is identified as reflecting the emergent post-neoliberal political framework, the 'Politics of Belonging'. It is concluded that Para Kore's approach has significant value not only in engendering waste reduction behaviours within organisations and households but also in reinvigorating individual and community wellbeing.

## Acknowledgements

Within *Te Ao Māori* [the Māori worldview], developing knowledge is about 'joining the dots' Dr Jessica Hutchings, the Māori academic and writer explained recently (J. Hutchings, personal communication, November 18, 2018). In contrast to the Western academic model of deconstructing the world to uncover greater understanding, Māori look for the *whakapapa* [genealogy] of things, that is how they connect and relate to each other. This research is a fusion of both models of developing knowledge and has been carried out as a gift for Māori and non-Māori alike. My desire is to create a strong strand to twist into the rope of solutions needed to bind humankind to a world of zero wastefulness and 100% vitality of individuals, communities and our natural world.

I would like to honour here the many people that have aided this work. Particular thanks go to Jacqui Forbes, CEO of Para Kore and her team; the three interview participants and their families; Dr Rochelle Stewart-Withers and other staff of Massey University; Dr Thomas Owen of Auckland University; Hannah Blumhardt of 'The Rubbish Trip; friends and Quaker Friends too many to mention; my 3 daughters, and finally my 2 small grandsons, Harry and Oscar whose joy for life keeps me daily motivated to continue in my role as 'Zero Waste Granny'.

## Glossary

| Māori Term | Definition |
|---|---|
| *Atua* | God(s) |
| *Harakeke* | Flax |
| *Iwi* | Tribe(s) |
| *Kaiārahi* | Guide, mentor, advisor(s) |
| *Kaitiaki* | Guardian of natural areas |
| *Kaitiakitanga* | Guardianship of natural areas |
| *Kanohi ki te kanohi* | Face to face |
| *Kaupapa* | Programme, understanding |
| *Kōhanga reo* | Early childhood centre(s) |
| *Konae* | Small woven flax basket(s) |
| *Kore* | Nothing, zero |
| *Kuia* | Wise elderly woman/women |
| *Kura* | School(s) |
| *Mahi* | Work |
| *Manaakitanga* | Looking after visitors, respecting a person's dignity |
| *Māra kai* | Garden(s) for growing food |
| *māramatanga* | Insight, enlightenment, understanding |
| *Mauri* | Life force |
| *Moana* | Sea |
| *Mokupuna* | Grandchild(ren) |
| *Pākehā* | Non- Māori |
| *Papatūānuku* | Mother Earth |
| *Para* | Unwanted rubbish |
| *Pātaka* | Storehouse(s) for food, neighbourhood roadside 'pantry' for the free sharing of surplus food |
| *Pōwhiri* | Welcome ceremony |
| *Rāhui* | Prohibited area(s) for food resource collection /ban |
| *Ranginui* | The Sky Father |
| *Rohe* | Region(s) |
| *Rongoā* | Natural medicine(s) |
| *Tangata whenua* | People of the land, local tribe |
| *Taonga* | Treasure(s) |
| *Tāne* | God of the forest |
| *Tapu* | Sacred |
| *Tauira* | Student(s) |
| *Te Reo* | Māori language |
| *Tikanga Māori* | Māori custom |
| *Tuna* | Eel(s) |
| *Tūpuna* | Ancestors, previous generations |
| *Wānanga* | Workshop(s) |
| *Whakapapa* | Genealogy, ancestry , lineage |
| *Whakatauki* | Proverb, traditional saying |
| *Whānau* | Extended family |
| *Wairua* | Spirit |

## My Personal Story

*This research is informed by prior personal experiences. First in the Solomon Islands, and then here within New Zealand. Regarding the Solomon Islands, if you stand on the wharf at Gizo as I did in 2015, you will see a flotilla of multi-coloured pieces of single-use plastic packaging floating gently on the tide. Then head by boat across the harbour to the beautiful tropical island of Loga, and step onto the boardwalk to be greeted by a swaying entourage of plastic, all shapes, sizes and types, waving from the mangroves. Marine and land-based litter is an acknowledged problem across the Pacific and within New Zealand, but as yet there is little sign of effective resolution.*

*As a volunteer working in the Solomon Islands 2012 – 2015, I was frequently asked how New Zealand has resolved the problems from waste, particularly the leakage of plastic waste into the marine environment. "We don't actually do that well ourselves," I'd say, and a look of disappointment would come across the enquirer's face. The unspoken message was clear, "If you people who produce this stuff we import, which causes us such problems, haven't sorted the issue, what hope is there for us?" Since that time, I have sought a way of answering this question more positively. This research forms part of that quest.*

*A year has passed since I was in Gizo, and I have arrived at Parihaka, New Zealand, on my bike, soaking wet, late and having missed the Pōwhiri [welcome ceremony] for the annual Para Kore hui[meeting] now underway. "Come in, come in, you are especially welcome, the first to show respect for Papatūānuku [Mother Earth] through journeying here by bicycle," says a member of the Para Kore Board. Wet though I am, I find myself embraced into this kaupapa [programme] via a warm hug and hongi [greeting]. It's another step in my journey of understanding. Māori and Pākehā [non-Māori], business people and conservationists, natural medicine practitioners and international lawyers, young parents and ancient kuia[senior women leaders] have gathered to share and to learn. Brought together by our shared desire to grow the zero waste message, I hear the stories of the activist Tina Ngata, the 'Non-Plastic Māori'; of Denise Roche, MP and Green Party Spokesperson on Waste; practitioners of Rongoā [natural medicine]; members of marae passionate about caring for Papatūānuku and others curious to find their own role. Within this community gathered for the weekend we shrug off the compartmentalisation of responsibilities for waste that has become so normalised in the society. Participants at Para Kore hui express how, "It's about finding grass roots, flax roots, community responses on how we take back control over our lives, Para Kore makes part of a lifestyle – it's like a political movement, it's an environmental movement." "I want my kids to inherit a world and a lifestyle that is thriving"(Para Kore Media, 2017). As our ancestors*

*before us, we are aware of our kinship with our brothers and sisters of all living species; solutions to waste issues become once more a collective community responsibility. I reflect on how we can together develop a new social norm so waste no longer harms our communities and the environment. I believe it will require individual citizens to themselves find value and meaning in embracing a zero waste lifestyle. Can such a societal shift result from the Pare Kore approach?*

Figure 1-1: Para Kore Hui-ā-Tau 2018 at Ōrongomai Marae, Upper Hutt – Jane at left of picture, one row back (The Rubbish Trip, 2018).

## Table of Contents

## List of Figures

# 1 INTRODUCTION

## 1.1 Introduction

Two years ago, the Sustainable Business Network (2016, para 17) described dumping waste in New Zealand as a "virtual free-for all". Waste-to-landfill has increased by 35% since 2009 (Hannon, 2018). The equivalent of a queue of nose-to-tail rubbish trucks 7 lanes wide lined up along the complete length of New Zealand is discarded annually of which only 28% is recovered for activities such as recycling(Wilson, Chowdhury, Elliott, Elliott, & Hogg, 2017). Even that level of recycling has been called into question in recent months as media attention highlights 'recycled' plastics apparently traded in a neo-colonial fashion from New Zealand to countries in South-East Asia to be illegally burnt or dumped, polluting overseas environments (Woolf, 2018). Further quantities of New Zealand plastics once promoted as recyclable' are being stockpiled or sent to landfill as overseas markets dry up (WasteMINZ, 2018).

These issues are also reflected globally. Of the 1.47 billion tonnes of global solid waste produced each year, 84% is collected but only 15% is recycled; the remainder ends up in landfills or leaking into the environment (Pietzsch, Ribeiro, & de Medeiros, 2017, p. 324). Marine pollution from anthropogenic litter is causing multiple ecological impacts (Rech, Macaya-Caquilpan, Pantoja, Rivadeneira, Madariaga, & Thiel, 2014) and the United Nations Environment Programme (2015, p. 13) has declared that "tackling waste management" is essential for addressing more than half of the Sustainable Development Goals.

Given the enormity of this issue, this research project seeks to better understand how such an ineffective approach to addressing waste has come about and whether alternative approaches to address the problem exist. This introductory chapter defines 'waste' before giving a brief history of waste and waste management in New Zealand. Following this, the Research Aim and Questions are stated, and the structure of this report is outlined.

## 1.2 What exactly is 'waste'? [1]

The United Nations Environment Programme (2015, p. 22) defines waste as "unwanted or discarded materials rejected as useless, un-needed or excess to requirements". Simply put, it is the 'stuff that people throw away'; yet no object is in essence 'waste', rather the materiality of waste results from social judgement processes which lead to devaluation of a material (Corvellec & Hultmann, 2012), a lack of value that comes as much from location as material

[1] While I have used the term 'waste' throughout this document in line with common usage, my personal preference is to avoid using this noun. The societal shift from using the word 'waste' as a verb, to waste something, with negative connotations (i.e. referring to being 'wasteful') to general usage of the word 'waste' as a noun has neutralised the idea of 'wastefulness' and engendered a concept of something neutral and inevitable in today's society (Personal observation). I would like to see the noun 'waste' banned!

make-up. This is very apparent within remote Pacific Island nations which suffer the 'tyranny of distance' to local and overseas markets for recyclables (Mataki, 2011, p. 47). So, to summarise, waste is a by-product of human activity, physically constituted of the same materials found in useful products but differing only in having no value assigned to it (Mataki, 2011).

This report focuses on waste generated by households, known as 'domestic' or 'household' solid waste. For ease of measurement, many national and regional bodies report this within 'municipal solid waste', defined by the OECD as household waste with the addition of waste from small businesses, garden waste, yard and street sweepings, and the contents of public litter bins (Hoornweg and Bhada-Tata, 2012). The diversity of products emanating from households leads to municipal waste streams recognised as the most complex in comparison with the relative homogeneity of non-municipal waste (Troschinetz & Mihelcic, 2009). 'Marine litter' is often characterised independently from municipal waste yet is frequently merely the part that leaks into the environment and never reaches a landfill. Significant sources of marine waste emanate from illegally dumped land-based domestic waste and public litter close to rivers and streams, poorly covered waste containers and inadequately managed waste dumps (Oosterhuis, Papyrakis, & Boteler, 2014; Rech et al., 2014). Global inconsistencies in definition, data collection methodologies and completeness create considerable challenges in comparing solid waste issues ((Hoornweg and Bhada-Tata, 2012).

The universal normalisation of the concept of 'waste' as a regrettable but necessary by-product of human life is relatively recent. For example, no word for 'waste' is present in some traditional Pacific Island languages (Morrison & Munro, 1999). Carden (2003) noted that in Kiribati, no word was required in the traditional language as biodegradable plant material was simply re-utilised as compost on vacant land or within taro pits while twice a day the incoming tide swept away human waste and other unwanted materials.

## 1.3 Creating waste: a brief history of Aotearoa New Zealand

*Me tītiro whakamuri kia anga whakamua /* We must look to the past to strive for the future
Traditional whakatauki [Māori proverb] (McKinney, 2018).

Facing today's waste problems requires insight into how a social construct of 'waste', embedded in the politics of market-driven capitalism, has replaced the traditional understandings mentioned above. It is also important to be aware of the watershed moment when, for public health reasons, the state took over full responsibility for waste products and their disposal (Mataki, 2011; Melosi, 2005).

In pre-colonial times, management of discarded items took place within local communities. In Aotearoa, discarded moa egg shell and bones carbon dating back to the 14th century have been found at Wairau Bay (Jacomb, Holdaway, Allentoft, Bunce, Oskam, Walter, Brooks, 2014). Evidence of the early separation of waste products at community level for 'recycling' has been found at the industrial Pa site of Heretaunga where stone, shell and bone flakes were set aside and stored for conservation and re-use (Pauling & Ataria, 2010). Using customary law, Māori communities maintained well-being through a complex system of sustainable processes, dealing with waste products such as shellfish middens and shavings from wood carving (Pauling & Ataria, 2010). Captain James Cook praised the practices of communities in Poverty Bay noting that: "the ground was everywhere clean. The offals of their food, and other litter, were also piled up in regular dunghills, which probably they made use of at a proper time for manure" (Pauling & Ataria, 2010, p.17).

Even in early colonial New Zealand, unwanted household artefacts continued to be discarded close to home. Excavation of the Christchurch property of an early settler who had arrived in 1862 uncovered numerous rubbish pits including a large pit at the back of the property containing 1037 items including ceramics, glass bottles, clay pipes, shoes and clothing (Ravilious, 2018).

It was the growth of urbanisation that led to major changes in how and where items were discarded (Mataki, 2011; Melosi, 2005). Mid-19th century public health concerns of 'miasma' (gases emanating from putrefying matter causing disease) led to offsite municipal solutions supplanting local responsibilities for unwanted discards (Mataki, 2011). Wellington City Council began using scavenger carts in the1880s to collect household and business refuse for burning at the City Council yards (Dann, 2010). Pauling and Ataria (2010) identify New Zealand waste management today as still dominated by continued reliance on a municipal authority to provide out-of-sight technological solutions to community-generated waste problems.

By the mid-20th century, local government bodies in New Zealand had replaced incineration of municipal rubbish with the simpler system of controlled tipping at dumpsites (Dann, 2010). Sanitary landfilling systems developed which isolated wastes from the environment by physical barriers such as clay linings and provided an economical form of disposal with added potential for land reclamation (Melosi, 2005). After World War II, waste quantities burgeoned through widespread adoption of the Keynesian policy of stimulating demand to provide for post-war reconstruction (Migone, 2007). Development of a 'consumer society' was made possible with the new plastics initially developed to overcome wartime shortages of rubber, silk and for its

waterproofing qualities for communications devices and other equipment and essential metals (Wakefield, 2007). Post-war, convenience was promoted over durability, and attractive single-use 'disposable' products and packaging became an essential element of advertising campaigns (Carden, 2003).

Within this paradigm of 'hedonistic capitalism' (Migone, 2007, p. 173), landfills became an unseen but essential part of the 'cradle-to-grave' manufacturing model. Society's tacit acceptance of waste management as a municipal responsibility almost a century earlier had created a paradigm of 'hidden externalities': the costs of discarding manufactured products became separated from other costs along the supply chain for which manufacturers and retailers were deemed responsible (Mataki, 2011; Michael-Agwuoke, 2017). The following chapter will discuss how this 'out-of-sight, out-of-mind' abnegation of responsibility to consider end-of-product-life outcomes, both by the businesses who manufacture goods and the organisations and individuals who purchase them, has developed into a milieu for the development of increasing quantities and complexities of waste.

## 1.4 The New Zealand 'waste space' today

The loose nature of New Zealand's current waste management and minimisation policy framework also has a historical context. Since the 1980s a neoliberal political agenda has created an opening for privatisation of many of the collection and disposal services (Davies, 2009) and reduced direct government intervention. By 1997 the Ministry of Environment (1997) reported concerns over the prioritisation of recycling over reduction and reuse. However, it was public concerns about Government inaction in the face of growing waste issues that led to the introduction of the current Waste Minimisation Act (2008) (WMA) as a Green Party Private Member's Bill in May 2006, passing into legislation two years later (Michael-Agwuoke, 2017). This Act specified obligations of Local Government, provided for a waste levy on municipal landfills, created a Waste Advisory Board and opened the possibility for mandatory product stewardship schemes and regulations to be made to control the disposal of products, materials and waste (Waste Minimisation Act, 2008). However, due to the neoliberal political underpinning to the NZ waste management arena, the ensuing decade has seen few regulatory actions come into force, bar the introduction of levy on waste to certain landfills at the default, ineffective level of $10 a tonne, the banning of plastic microbeads in personal care products and cleaning products, and the recent mandatory phase-out of single use plastic bags (Hannon, 2018). As Michael-Agwuoke (2017) points out, the value of the Act was seriously diluted by the items that were removed prior to the Act being passed. Taken out was the proposal for all businesses to have waste minimisation plans by 2016 as well as a prohibition

on the disposal of waste that could be reused or recycled. Also removed was the requirement for waste management operators to be licensed, something that would provide clear measurable data (Michael-Agwuoke, 2017).

One provision left in the final WMA, albeit in diluted form, was the introduction of a waste levy on waste disposed of to landfill (Hannon, 2018). Revenue raised is allocated to fund initiatives for waste minimisation. The risk-averse decision to apply a low $10 rate, since unchanged, in 2009 was stated as reducing the likelihood of illegal dumping, reducing the impact on businesses and households and bizarrely also 'to reduce the risk of inefficient spending of the revenue' (Ministry for the Environment, 2018a.) In 2015 less than half of waste went to levied landfill sites (Wilson et al., 2017). A recent OECD report pointed out that New Zealand's very low waste levy tariff, which still remains at $10 per tonne, hampered its effective in incentivising reductions in business wastage (OECD, 2017). Increasing this levy has been recommended by the OECD (2017), the New Zealand Waste Levy Action Group (Wilson et al., 2017) and the Territorial Authority Forum of New Zealand (2018).

Central Government responsibility for waste issues in New Zealand is limited to the high-level non-statutory policy document, the 2010 NZ Waste Strategy. Local Councils are left to provide effective and efficient waste management and minimisation through adherence to the Waste Minimisation Act (2008) and Regional Councils are expected to regulate disposal facilities and facilitate collaboration between local authorities (Ministry for the Environment (2018b). The Strategy's two stated goals, reducing the harmful effects of waste and improving the efficiency of resource use, are underpinned by very little in the way of regulatory support from Central Government (Hannon, 2018). The document states a 'flexible approach' (p.2) but, it lacks goals, targets, timetables, actions or responsibilities (Territorial Authority, 2018). Apparently unconcerned with the highly privatised NZ waste industry's inherent bias against prevention and in favour of profitable waste for landfill or recycling, the Strategy states that good practices will be driven by initiatives led by the waste industry. Continuing further in the same unlikely vein is a stated reliance on the waste industry's ability to incentivise customers in a way that leads to a reduction in waste (Ministry for the Environment, 2010, p.7).

A further factor hindering decision-making is the lack of comprehensive and internationally comparable data on waste generation, treatment and disposal (OECD, 2017). This issue is compounded in NZ through our highly privatised non-regulated waste sector which has led to certain data being deemed commercially sensitive (Michael-Agwuoke, 2017). There is a clear need for all waste management operators to be registered to facilitate easy data collection and monitor performance standards (Michael-Agwuoke, 2017). Official adoption of a National

Waste Data Framework forms part of a strongly-worded 5-point manifesto issued by 64 city and district councils (Territorial Authority Forum, 2018).

It is hardly surprising that the amount of municipal solid waste going to landfill in New Zealand continues to rise and is amongst the highest in the OECD (Ministry for the Environment, 2017). A billion drink bottles and cans are landfilled annually in NZ, and unlike most other countries 85% of tyres are also currently landfilled while NZ has one of the highest discard rates of electronic waste in the OECD (Hoffart, 2018). To achieve the stated aspiration of a zero waste society (Ministry for the Environment, 2010), academics, OECD advisors and NGOs have been pushing successive New Zealand governments to bring in regulatory measures and improved systems of data collection (Hannon, 2018; Blumhardt, 2018). The business sector and the Ministry of Environment are promoting adoption of Circular Economy technologies (Sustainable Business Network, 2018; Ministry of Environment, 2017). I wish to explore whether such technological and policy solutions alone will be enough to markedly reduce New Zealand's current waste issues or whether an alternative model may also be of value.

## 1.5 The research aim and questions

A wide body of literature considers policy frameworks and technical aspects of mainstream western waste minimisation and zero waste approaches. However, while many researchers have identified constraints to today's models, the formidable composite effect of these constraints appears overlooked. A specific area needing more research is the potential for a model derived from the different epistemology of an indigenous worldview to overcome this composite barrier. With this in mind the research aim and questions are as follows:

| | |
|---|---|
| ***RESEARCH AIM:*** | **To investigate the Para Kore model in relation to current solid waste minimisation strategies** |
| *RESEARCH QUESTION 1*: | What are the main approaches to solid waste minimisation currently promoted by State Actors aspiring to Zero Waste outcomes and what restricts their effectivity? |
| *RESEARCH QUESTION 2*: | How does the Para Kore approach differ from mainstream solid waste minimisation approaches and what are the underpinning philosophies? |
| *RESEARCH QUESTION 3:* | How is the Para Kore approach to zero waste working out in practice and what are the challenges? |

## 1.6 Structure of the report

*Chapter One* develops the waste concept, situating current waste management and minimisation within the context of history and an overview of waste management policy in New Zealand today.

*Chapter Two* reviews literature related to waste minimisation approaches with reference to the Waste Hierarchy model, the Circular Economy and the Zero Waste concept. Limitations and inherent incompatibilities within such models are investigated and linked to a neoliberal political outlook. An alternative post-neoliberal political theory, the 'Politics of Belonging', is introduced.

A post-development lens is used in *Chapter Three* to introduce the value of traditional ecological knowledge in overcoming environmental problems. Māori environmental philosophies are explored and the potential for an alternative indigenous approach with an epistemology outside the mainstream waste metanarrative is examined.

*Chapter Four* outlines the qualitative research methodology used to investigate the Māori zero waste organisation, Para Kore. The case study interview approach, accompanying methods of data collection and analysis, and ethical issues are discussed. An overview of the key informants is provided, and limitations of the research are discussed.

The case study, Para Kore Marae Inc., forms the focus of *Chapter Five*. Development of the organisation from its inception a decade ago and its relationship to Māori environmental philosophies are explored. Processes, practices and achievements are highlighted.

*Chapter Six* details findings generated from case study interviews. Themes that emerged are categorised into 4 groups: holistic understandings; cultural and political empowerment; challenges to implementation and finally the relevance of the programme to non-Māori.

*In Chapter Seven,* discusses the relationship of these findings to the wider literature. The Para Kore approach is contrasted with state-led and business-driven models of waste minimisation. Alignment with the emerging post-neoliberal 'Politics of Belonging' is considered. The value of allying Para Kore's ability to engage householders and reinvigorate the commons with effective action by state actors and the business sector is acknowledged. The report concludes by recommending that Para Kore's work is recognised as of significant value to a New Zealand waste minimisation strategy.

An *Epilogue* outlines my view of a way forward to a zero waste New Zealand. Given the urgency of the current waste crisis, the 'Big Organising' model is suggested for extending the reach of the Para Kore approach to rapidly engage a tipping point threshold 15% of New Zealand households in zero waste activities.

# 2 MAINSTREAM APPROACHES TO WASTE MINIMISATION

## 2.1 Introduction

For much of the 20th century, the 'flame, flush or fling' practices of solid waste management (Seadon, 2010, p.1639) prioritised the collection of waste materials and their disposal but did little to address growing socio-environmental degradation (Melosi, 2005). By the 1990s, the situation in New Zealand, reflected internationally, was challenged by growing quantities of waste products and the difficulty of finding sites for new landfills (Davies, 2009). A shift in focus to minimising waste reaching landfill thus began (Melosi, 2005). This chapter critically reviews mainstream waste minimisation approaches that have arisen since that time: zero waste aspirations and the Waste Hierarchy and Circular Economy models are explored. Consideration is given to the limited inclusion of householders in waste minimisation strategies. This leads into exploration of the political nature of waste and the impacts of the neoliberal economic model on waste minimisation. Finally, an emerging new post-neoliberal political theory is examined for its potential to transform waste minimisation thinking.

## 2.2 Current waste minimisation strategies

### *2.2.1 The Waste Hierarchy model*

Municipal strategies across the globe embraced the internationally-espoused Waste Hierarchy model (see Figure 2.1) in the 1990's, creating an 'Integrated Solid Waste Management' approach which recognised the importance of reducing waste reaching landfills (Corvellec & Czarniawska, 2014; Pietzsch et al., 2017; Hoornweg & Bhada-Tata, 2012). In New Zealand, the Waste Hierarchy model is recommended in New Zealand's Waste Minimisation Act (Michael-Agwuoke, 2017). State actors optimise processes at the upper resource recovery rungs of the model so that minimal waste remains for disposal through incineration (generally incorporating energy recovery) or landfill (Corvellec & Hultman, 2012). The model initially focused on '3Rs' of 'reduce, re-use and recycle' but a 4th 'R' for 'recovery of energy from waste' was later added (Hoornweg & Bhada-Tata, 2012). Some forms of the model incorporate a further top 'prevention' rung (Corvellec & Hultman, 2012).


Figure 2-1 The Waste Hierarchy model (ACT Government, 2011).

However, as is the tendency with simple models, the Waste Hierarchy's simplicity masks a more complex reality. Driven by the political need to tackle waste issues, state actors fail to acknowledge the model's inherent paradox in promoting the reduction of waste in the same framework that highlights value in waste that can be extracted (Corvellec and Hultman (2012). Furthermore, proponents of the model widely use the 'Life Cycle Analysis' (LCA) decision-making tool which considers only the 'life-cycle' of the post-discard stage of products and ignores potential for waste prevention further up the supply chain, thus reinforcing waste as a profitable end-of-life resource (Arena et al., 2003). Consequently, municipal level reduction and recycling initiatives are generally prioritised ahead of industry-level prevention (Pietzsch et al 2017). The Waste Hierarchy model's inherent contradiction helps support the growth of a waste management industry (with a global worth of roughly 300 billion Euros (Veolia, 2010)) with a vested interest in recycling and waste management rather than its prevention. Corvellec (2016) suggests that waste prevention should be viewed outside the waste hierarchy model as a separate and dynamic social change process.

However, conceptualising and defining 'prevention' is challenging within an over-arching model promoting economic growth. This is exemplified by the limited attention given to prevention within the influential Global Waste Management Outlook Report (United Nations Environment Programme, 2015). Rather than focusing on the strict avoidance of consumption, waste prevention is restricted to product design (to reduce unnecessary materials, for durability, for disassembly) and encouragement of increased consumption of items such as mis-shaped vegetables. Corvellec (2016) suggests the concept of prevention needs to be viewed as three distinct categories. First, improving material efficiencies such as within a factory to reduce

secondary waste; secondly by raising awareness of the need to prevent waste as a counter to the paradigm of economic growth, for example through letterbox stickers refusing advertising material; and thirdly by altering consumption, such as usage of a car sharing pool. However, for state actors developing waste minimisation strategies, such conceptualisation may be too esoteric: the Waste Hierarchy model provides a clearer basis from which to act.

### *2.2.2 Zero waste goals*

For communities, governments and businesses, replacing complex integrated solid waste management plans based on the Waste Hierarchy model with a single goal to reduce waste to zero creates a far simpler approach to grasp (Tennant-Woods, 2003). In contrast to earlier integrated approaches using the Waste Hierarchy model, relying on analysis of individual waste streams to bring about incremental improvements, the simplicity in the aspirational zero waste vision of a sustainable waste-free future appears to provide leverage to drive change in society (Greyson, 2007). While the term ‘zero waste’ originated in civil society, it has become an aspirational goal for state actors (Michael-Agwuoke, 2017; Zaman, 2014). New Zealand was an early adopter, incorporating the concept into the first national waste strategy in 2002: 'Towards Zero Waste and a Sustainable New Zealand' (Ministry for the Environment, 2010).

The Zero Waste approach combines integrated design concepts with waste management philosophies in order to achieve sustainable resource management (Pietzsch et al., 2017; Zaman, 2014). However, despite the term ‘zero waste’ originating in the 1970s, scholars have still not reached consensus regarding the concept, particularly on what constitutes waste and how the goal of eradicating it from society will be achieved (Pietzsch et al., 2017; Tennant-Woods, 2003; Zaman, 2014). One of the initiators of the civil society movement, the New Zealand Zero Waste Trust, established in 1997, defined zero waste as a "closed-loop materials economy; one where products are made to be reused, repaired and recycled, an economy that minimises and ultimately eliminates waste" (Tennant-Woods, 2003).

Today, zero waste goals are being increasingly embedded within national and international policies across the globe. Examples include the recent EU Waste Directive (416/2015) and Singapore’s espousal to be a 'zero waste nation' (United Nations Environment Programme, 2015, p.151). Major cities including San Francisco, Adelaide, Vancouver as well as Auckland all incorporate zero waste goals within their current waste management plans (Auckland City Council, 2018; Zaman, 2014). Nonetheless scholars raise concerns that zero waste programmes are applied in many countries without any holistic strategy as to how goals can be attained (Pietzsch et al., 2017; Zaman, 2014). As with the Waste Hierarchy model, the immediate

political requirement to be seen to tackle waste issues can outweigh the practical requirement to ensure sustainable and effective long-term outcomes.

### *2.2.3 The Circular Economy*

In 2015, the United Nations Environment Programme (UNEP) labelled creating a shift in focus from 'waste management' to 'resource management' within a Circular Economy approach as a critical 'action imperative' for high-income countries (United Nations Environment Programme, 2015). The Circular Economy model is viewed as replacing current present linear 'take-make-use-dispose' paradigm of industrial production that Raworth (2017) likens to an 'industrial caterpillar, ingesting food at one end, chewing it through, and excreting the waste out of the other end' (p. 212). Effecting a circular economy requires waste to be designed out of the system throughout the manufacturing, supply and consumption chain; durable technical materials are re-utilised, renewable energy is harnessed, and biodegradable nutrients are returned to the biosphere (Ellen MacArthur Foundation, 2015; Murray, Skene & Haynes, 2017). Figure 2.2 contrasts a standard production and waste management system on the left, with an integrated system in the centre and the Circular Economy approach on the right.

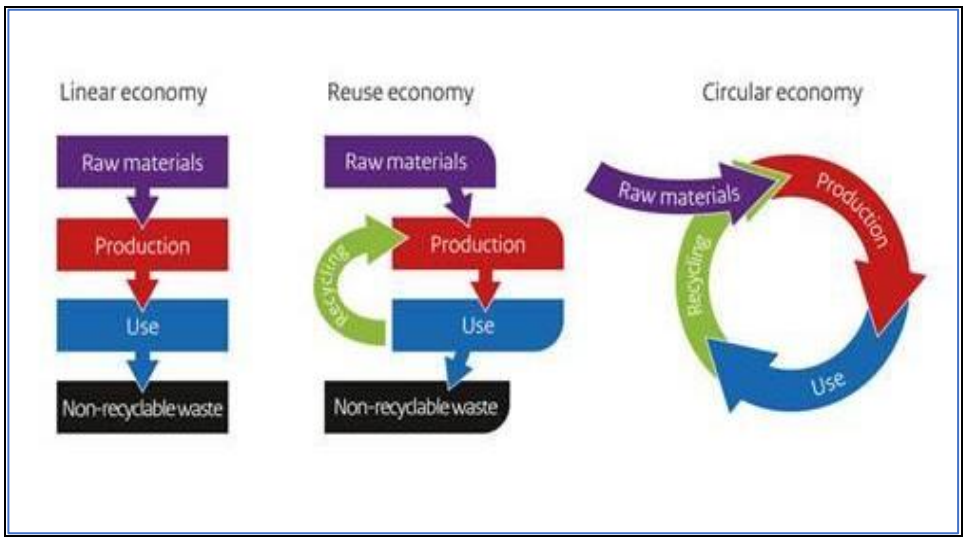



Figure 2-2: From a linear to a circular economy (Government of the Netherlands, 2018).

It is the direct threat from waste to attaining SDGs in countries such as Pacific Island nations (Farrelly et al., 2016; Richards & Haynes, 2014) that has led the United Nations to view the Circular Economy as a central pillar to the achievement of SDGs. In 2018, the United Nations Environment Programme committed to accelerate the shift to a Circular Economy through an agreement with one of the most fervent non-government advocates, the Ellen MacArthur Foundation, (Ellen MacArthur Foundation, 2018). Figure 2.3 highlights relationships between waste management and each individual SDG (Lenkiwicz, 2016).


Figure 2-3: The role of waste management in achievement of the Sustainable Development Goals. (Lenkiewicz, 2016).

For state actors and inter-governmental bodies concerned with waste issues, the concept of a Circular Economy system is attractive. One benefit for the state is that responsibility for sustainable outcomes is offloaded to the private sector. As well as this, continuous reuse of end-of-life products appears to provide the option of economic growth that is socially and environmentally sustainable (; Ellen MacArthur Foundation, 2015; Geng, 2011; Murray et al., 2017; Shah, 2016). Multiple social, environmental, and economic benefits are projected: job creation, reduced municipal costs for waste disposal, lowered environmental impacts from extracting raw materials, reduced landfilling issues, and lowered energy consumption (Pietzsch et al., 2017). Developing countries too are viewed as benefitting from reduced pollution and related health impacts while economic growth decoupled from resource use reduces reliance on imports which would enhance national peace and security (Gower & Schroder, 2016).

The Circular Economy model appears to provide a neat and effective technological solution to eradicate waste. However, once again, the simplicity of the model belies significant challenges in its practical implementation. Circular systems require total transformation of existing practices and relationships in and between extraction, marketing, supply chain management,

consumption, and post-use treatment processors (Zaman, 2014). Translating the idealised Circular Economy vision into reality is challenged by today's political narrative. Raworth (2017) suggests circular economy strategies are generally in-house models driven to fit the interests of large corporations and so lack coherence across industries. Even when linked to a 'green economy', marketing of products as 'sustainable' may simply enhance the western neoliberal hegemony of increased consumption (Surak, 2015). Some scholars view the Circular Economy as just 'the latest and most sophisticated version of the sustainable fetishized commodity' ( Valenzuela & Bohm 2017, p.3). Moreover, while the concept of sustainability rests on three pillars, social, economic and environmental, the Circular Economy model lacks a social dimension with scant reference to relationships and householders relegated to the role of consumers (Murray et al., 2015). Surak (2015) too has concerns about social aspects, pointing to the model requiring a whole new level of trusting and respectful interaction and partnership along supply chains, something needing far more than just a "technical fix" (p.3).

China has seen the longest practical development of a Circular Economy model within a national policy framework but Geng, Fu, Sarkis & Xue (2012) have identified challenges in its implementation. Indicators were based on the '3R' approach, which gave rise to the same risk already noted in the Waste Hierarchy model, that of favouring recycling over the more important areas of prevention and reduction at source. A contractual symbiosis was found to have resulted between domestic waste generation and its re-use as energy by industry, creating a counterproductive motivation for continuation of waste streams (Geng et al, 2012). As reporting by provincial governments against the national Circular Economy standards has been voluntary, Geng et al. (2012) concluded that it was still uncertain whether significant waste minimisation had even taken place.

## 2.3 Households and the commons: neglected stakeholders in waste minimisation

Waste is a social issue (Corvellec & Czarniawska, 2014; Hannon, 2018; Murray et al., 2017;) yet mainstream waste minimisation models focus on technological solutions. Engagement of householders would appear an obvious priority since they are co-responsible for generation and disposal of their wastes, yet the value of public participation is often not acknowledged (Pietzsch et al., 2017; Zaman, 2014). Despite the Circular Economy forming part of national policy since 2003 in China, national standards still fail to measure public awareness and participation (Geng et al., 2012). In the Pacific Islands, Mataki (2011) identified that decision-makers leaving out householders and other groups and viewing waste collection and disposal practitioners as the only relevant stakeholders significantly hampered effective waste

management. This issue is echoed in New Zealand: of the five recommendations in a recent local government waste reduction manifesto (Territorial Authority Forum, 2018), none directly involve household behaviour change.

When the public are brought into waste minimisation programmes, it is generally through awareness-raising campaigns to change public behaviour (McLaren, 2007). Yet raising awareness does not necessarily equate with behaviour changes towards waste (Greyson, 2007). Even when people were aware of the impact of over-consumption on the environment, it was found that economic or aesthetic considerations still affected purchasers' choices of non-essential goods over environmental aspects (Pereira, Heath & Chatzidakis, 2012). Furthermore, individuals tend to see their own actions as insignificant yet blame others for not acting (Pereira et al., 2012). Moreover, psychological discomfort felt by individuals asked to change their wasteful behaviours within an unchanging wider world can result in denial or tokenism (Greyson, 2007).

Campaigns emphasising recycling can also be counter-productive. Research has found that focusing on recycling can lead individuals and municipalities to achieve improved recycling performances yet encouraged by the consequent 'feel good factor', people consume more and total waste production rises (Cecere, Mancinelli & Mazzanti, 2014). Confusion exists over the concept of prevention too: householders generally equate 'waste prevention' with 'recycling', often interpreting the terms 'reduction', 'minimisation' and 'prevention' as synonymous (Corvellec, 2016).

Extrinsic motivation via fiscal incentives or disincentives such as full-cost pricing or environmental taxes is commonly proposed to engage the public in appropriate waste reduction behaviours (McLaren, 2007). However, Pietzsch et al (2017) noted that monetary incentives to minimise waste could disincentivise citizens if they had already engaged on a voluntary basis. Motivation to engage in prosocial waste behaviour was found to go beyond economic considerations: people change wasteful behaviours due to intrinsic principles such as a dislike of unfairness and a feel-good 'warm glow' as well as through social norms or concerns for their reputation (Cecere et al., 2014; Pereira et al., 2012; Pietzsch et al, 2017; Zaman, 2014). Sustainable behaviour regarding waste appears to depend more upon the intrinsic motivation of altruistic individual attitudes than social pressures (Cecere et al., 2014; Pereira et al. 2012; Zaman, 2014).

Local contextualisation is a further factor in effective public engagement. The 'Sound Material Society' initiative in Japan which saw the country become a global leader in waste diversion was grounded in the traditional concept of 'mottainai' (MFE Japan, 2005). Societal shame

embedded in this concept of wasting something without realising its full potential led to a highly successful public waste reduction initiative (MFE Japan, 2005). In the Pacific, waste education and awareness programmes based on the 3R and 4R approach failed to improve issues such as littering and illegal dumping (Secretariat of the Pacific Regional Environment Programme 2009) and Mataki (2011) identifies a need for a locally-based paradigm to address waste.

There is also value in the public having an informed understanding regarding the political nature of waste. Householders, waste management professionals and policy-makers lack understanding of how waste exemplifies humankind's misuse of the natural world (Valenzuela & Bohm, 2017). Furthermore, "if we are serious about addressing plastic pollution as a global crisis, then we cannot ignore the issue of waste colonialism. Countries of privilege burden others with their consumerism then turn their backs on the consequences" (Borelle cited in Frain, 2018). Only by 'outing' the political nature of waste will responsible citizens gain the impetus for significant waste reduction changes (Valenzuela & Bohm, 2017).

Yet normalisation of waste within the hegemony of continuous economic growth obscures these inherently political aspects. The current neoliberal political focus that has underpinned national economies, including that of New Zealand for the past 30 years, relies on the business sector driving economies with minimal interference from state regulation. Yet this not only fuels the production of waste but as the next section explores, also pushes back against waste reduction by creating inherent contradictions in strategies for waste minimisation.

## 2.4 Political aspects of waste minimisation: The emperor has no clothes

Conceptualising a zero waste society is so attractive and rhetorically convincing that the constraints that capitalism imposes on minimising waste are easily ignored (Surak, 2015). The dysfunction of current New Zealand waste minimisation policy has recently been highlighted by Hannon (2018) in a strong 60-page submission to the Parliamentary Commissioner for the Environment. He describes how the neoliberal political outlook of the past decade whose "presiding dogma appears to have been that environmental action is antithetical to and inevitably undermines economic growth" (p. 15) has created one of the least regulated national waste strategies in the OECD. While there may be a level of ignorance, business interests also pro-actively sustain the metanarrative in New Zealand: "self-promotion and lobbying of vested interest groups, some of whom are in receipt of significant levels of public funding" is apparent (Hannon, 2018, p. 15). The current waste strategy is not working as the New Zealand Ministry for the Environment (2017, p.14) makes clear: "In the past eight years, the government has invested more than $179 million in waste minimisation initiatives (…) but waste levels continue to rise."

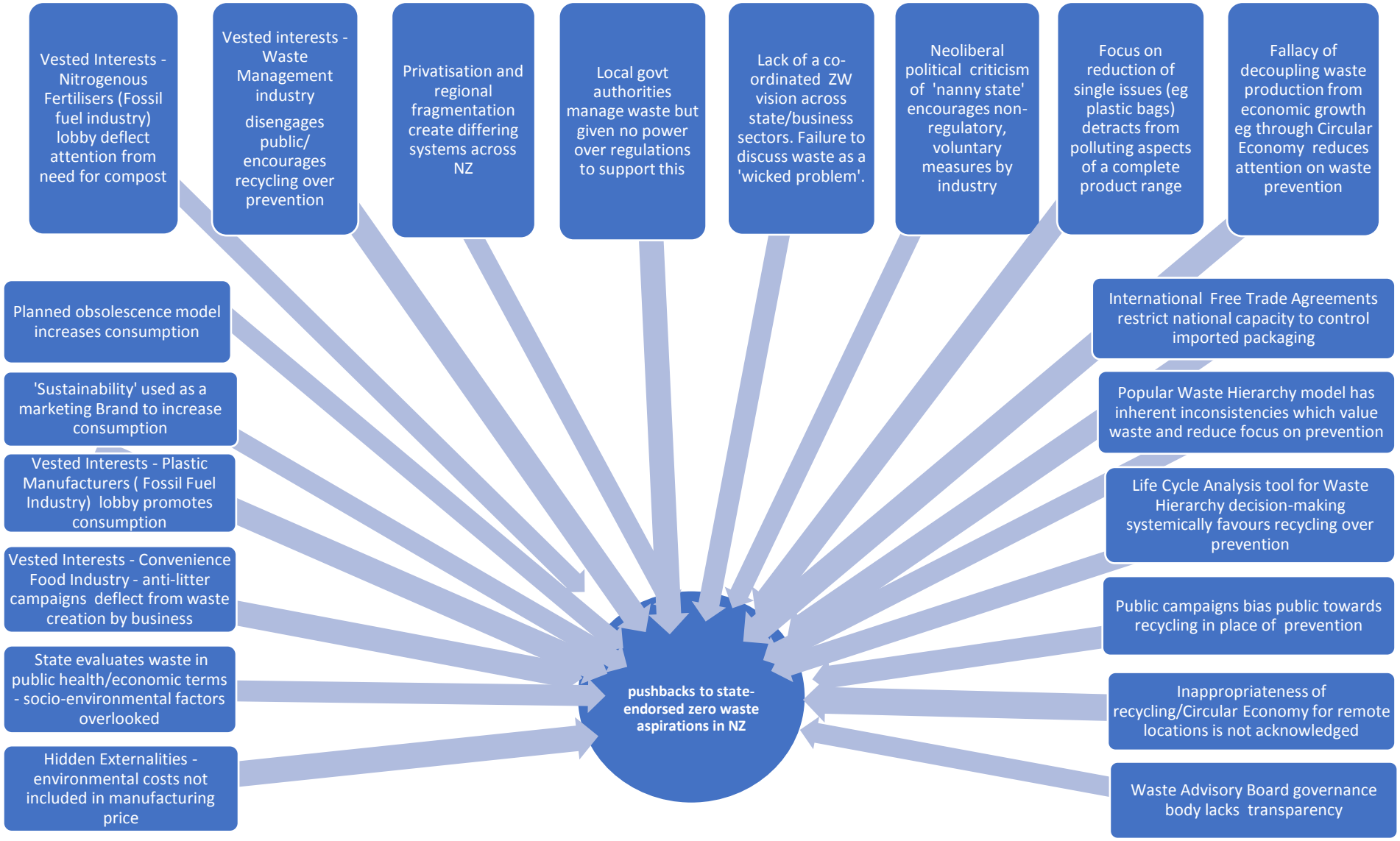
It is almost two decades since De Alba, Gonzalez-Gaudiano, Lankshear, & Peters (2000) described waste minimisation initiatives as being "a vast mass of well-intentioned projects that centre on recycling actions without any further pedagogical reach, and that in reality actually help slow down consciousness of the necessity for radical changes" (p.67). This is still true today: contradictory factors that restrict waste prevention, the inherent prioritisation on recycling, and the underutilisation of householders have already been alluded to. Waste is a 'wicked problem' (Chan, 2016) and as such requires thinking that can grasp the big picture, including the interrelationships among the full range of causal factors underlying them. Successfully tackling wicked problems:

> "requires a broad recognition and understanding, including from governments and Ministers, that there are no quick fixes and simple solutions (…requiring instead..) broader, more collaborative and innovative approaches. This may result in the occasional failure or need for policy change or adjustment" (Australian Government, 2007).

It is outside the scope of this research to fully detail the significant constraints to the eradication of waste from society which arise from global endorsement of a neoliberal political worldview and the 'strategic global campaign of opposition (Hannon, 2018, p. 49). However, what is essential is to recognise that the challenge to mainstream zero waste aspirations comes not from individual constraints but from the weight of their collective impact. An attempt to graphically portray the collective problem created by these 'neoliberal pushbacks' is provided below (and more fully referenced in Appendix 1). Figure 2.4 illustrates twenty neoliberal issues limiting waste minimisation while Figure 2.5 highlights a further twelve opportunities that the New Zealand government has failed to apply due to an overarching neoliberal political outlook.

.

Figure 2-4: Twenty significant neoliberal constraints to the eradication of waste from society (refer to Appendix 1 for examples and source data).



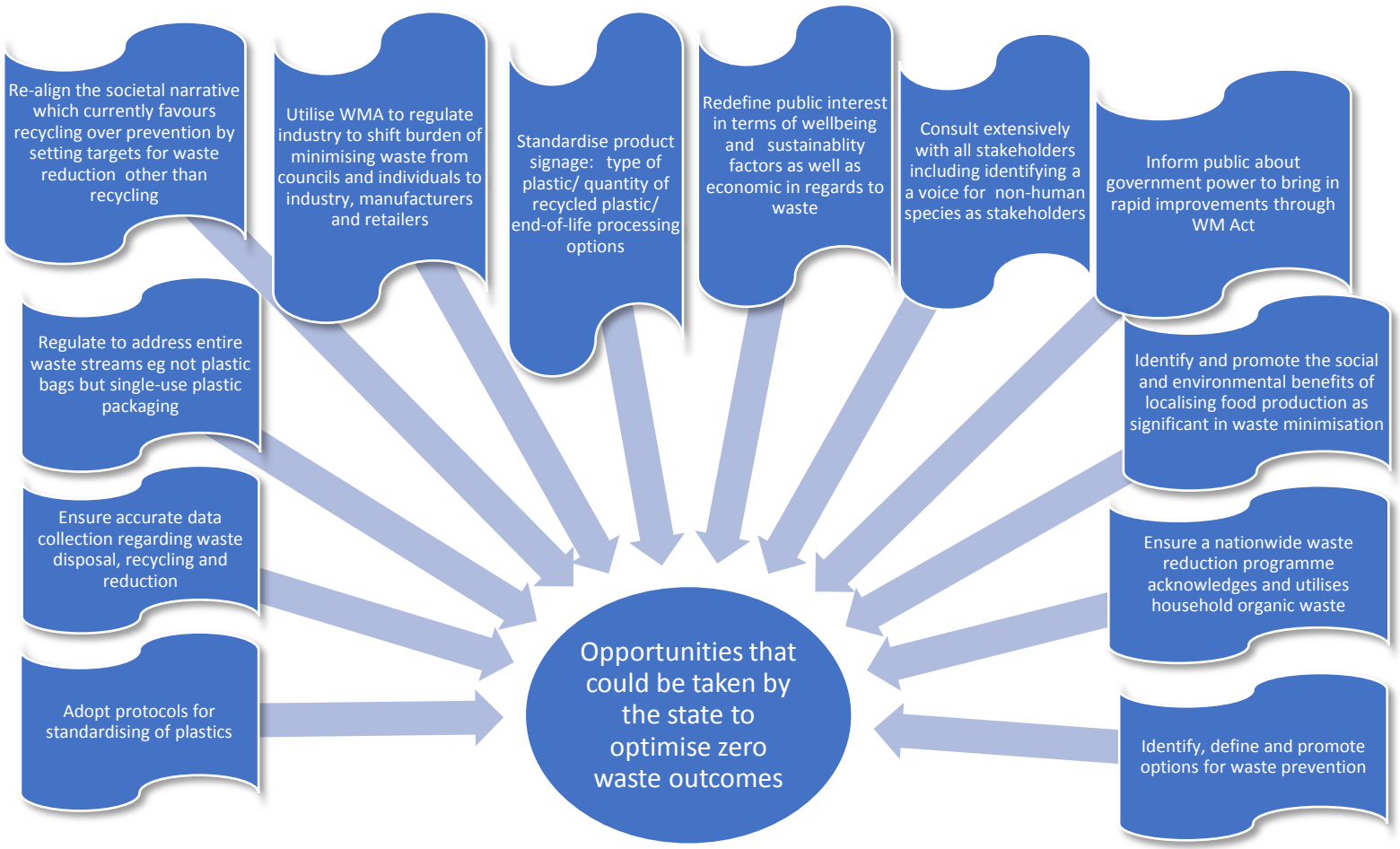



Figure 2-5: Twelve waste minimisation opportunities unrealised by New Zealand Government (refer to Appendix 1 for examples and source data).

The sheer quantity of these pushbacks, resulting from the neoliberal ideology shared by the state and the market, indicates an underlying metanarrative regarding waste. This social narrative around waste and its reduction frames what people within a society view as acceptable while providing the state and the business sector with a rationale to justify their actions (Corvellec et al., 2012). Like the emperor who had no clothes, such a multitude of opposing factors suggests that state actors, the business sector and the general public have bought into a metanarrative of an aspirational zero waste story that can never be achieved within the current socio-political-economic system.

So, is there hope for overcoming the current waste crisis when neoliberal politics support an economic system that creates such a strong metanarrative that waste minimisation strategies push with one hand (the state) but pull with the other (the business sector)? I suggest that a solution lies within an emerging new political theory that has developed out of a reformulated view of economics.

## 2.5 Post-neoliberalism: the Politics of Belonging and Big Organising

"Neo-liberalism is dead: we need a new political story", suggests progressive thinker and political commentator, George Monbiot (2018a), pointing out how people rely on a story to understand political complexities. Reality is too complex to fathom in its entirety so widespread political change requires a new transformational story for the public to embrace (Monbiot, 2017). In New Zealand this year, I have increasingly encountered people referring to their anxiety over two equally bleak alternatives ahead for society. Eco-philosopher Joanna Macy (2015) has characterised these two options as 'Business as Usual' (the continued reliance on neoliberalism to somehow come through despite every sign to the contrary) and 'The Great Unravelling' (a general hopelessness about the plight of the world and despair over any possibility of averting global catastrophe). It is within this space that the new global political narrative, the Politics of Belonging (Monbiot, 2017), has emerged as a third option, reflecting Macy's (2015) hopeful concept of 'The Great Turning'.

Monbiot's (2017) 'new story' has incorporated aspects of Raworth's (2017) 'Doughnut Economics' model. Raworth queries why, "If the economy is so evidently embedded in the biosphere, how has economics so blatantly ignored it? (p.72), conceptualising a new economic model which supports society to meet the needs of all without depleting earth's natural boundaries. The Politics of Belonging harnesses this view of the economy to build a new form of politics endorsing the capacity of householders working together to create change. As illustrated in Figures 2.4 and 2.5, the neoliberal understanding of an economy driven by the

market balanced by state regulation is transformed into one where households and the commons[2] also have core roles.

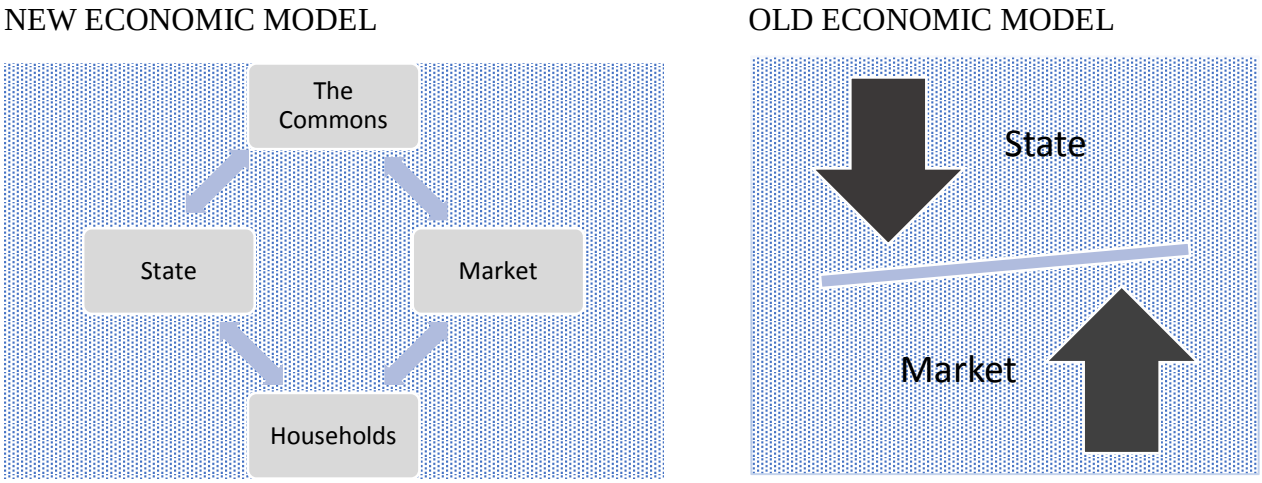



Figure 2-6: Drivers of an economy: new quadrant model v. previous neoliberal linear state-market axis (adapted from Monbiot, 2018).

To have the capacity to replace neoliberalism, a new political narrative must be authentic, bold and transformational, offering solutions as big as the problems we face (Bond & Exley, 2016). Today's political arena in western countries has largely shifted from a left/right axis to a vertical axis of closed politics driven by exclusion and fear versus open and inclusive frameworks (Scharmer, 2018). Any new political story must be inclusive, able to infect minds across both sides of the political spectrum (Monbiot, 2016). It seems a massive undertaking, yet there are signs this new political movement is emerging. Previous political theories such as Keynesianism and neoliberalism developed through state leaders adopting economic models created by small groups of economists (Raworth, 2017). In contrast, this new politics is emerging 'organically' at grass-roots level.

The new global Politics of Belonging movement challenges the model of individualism and extreme competition on which neoliberalism is centred (Lukacs, 2017). The focus is to restore community, renew civic life and 'allow us to claim our place in the world' in order to build a society where altruism, empathy and deep connection flourish (Monbiot, 2017, p.185). Communities of belonging are developing across the globe to mobilise change and protect the

[2] shared natural resources belonging to a community

commons (Lukacs, 2017). One such group publicly but non-violently rejecting neoliberal state and market-led resolutions to create transformational change is 'The Leap' in Canada. Developed out of a 2-day gathering of Canada's indigenous rights, social and food justice, environmental, faith-based and labour movements, its goal is to tackle the intersecting crises of climate change, racism and inequality (Klug and Rees, 2018). As I write this, communities of school students are striking in Australia, protesting the government's inability to protect the environment, while in my own community a voluntary group of householders is working to transform tourism in the Bay of Islands to rebuild biodiversity and social capital while reducing waste. Such initiatives, independent of support from the state and business sectors, are at the heart of this Politics of Belonging.

The concurrent development of a new model, Big Organising, allows the promotion and spread of new political ideas to the wider public, again without reliance on state or business support. Big Organising formed the central strategy in the 2016 US political campaign to elect Bernie Sanders. Through the 'Knock Every Door' campaign, thousands of teams of volunteers made direct contact with 75 million Americans (Monbiot, 2017, p. 95). With a very limited budget and just 3% name recognition 7 months earlier, Sanders realised 46% of democratic votes, an extraordinary achievement against massive odds (Bond & Exley, 2016). People talking directly with people was found to have a profound effect on motivating the volunteers and peer-to-peer face-to-face interactions created legitimacy outside of mainstream media, despite lack of media interest and airtime (Bond & Exley, 2016).

Successful use of this model whereby volunteers disseminate a political message on a large scale requires a political offer that is radical, pointing to resolution of the major problems we face (Bond and Exley, 2016). It must provide a genuine alternative, one that holds powerful vested interests to account and can be seen to subordinate market forces to the needs of humankind and the natural world (Klug and Rees, 2018). Moreover, it must entail a positive, creative, inclusive vision of the future for generations to come (Monbiot, 2018). While the vision of a fully zero waste society encapsulates just such a radical transformative vision, the success of a Big Organising model in engaging householders on a massive scale in a vision of zero waste would depend upon two factors. First, enough people willing to volunteer to promote a zero waste ethic and share practical minimisation strategies, and secondly, a supporting infrastructure to facilitate the face-to-face outreach.

## 2.6 Conclusion

The implementation of a zero waste approach is clearly more difficult than it first seems. The concept has been widely adopted into strategic plans and policy frameworks within New

Zealand as well as internationally yet there is no sign of waste levels diminishing. Portrayal of waste as a 'fixable' issue within current systems of production and consumption disguises a plethora of contradictions and missed opportunities in state-led policy frameworks and business-driven zero waste aspirations. Waste minimisation policies and processes are entangled in a metanarrative that has normalised waste within society. It becomes hard to see past the two alternative political paradigms of 'Business as Usual' or 'The Great Unravelling'. However, an emerging new political 'story', the Politics of Belonging is challenging the neoliberal status quo, reconceptualising the significance of householders and the commons to the economy. Strengthened communities gain capacity to determine their own outcomes, shifting power away from the central state and corporate business sector (Monbiot, 2016). Such a devolution of power weakens the significance of the thirty-three constraints resulting from a neoliberal political outlook identified in Figures 2.4 and 2.5 that hold back waste prevention. Implementation of initiatives driven from a household sector supported by a revitalised commons creates significant potential for achieving a truly zero waste society. At the basis of this new global political movement is the principle of working together in community for the common good, something at the heart of the indigenous philosophies explored in the following chapter.

# 3 THE POTENTIAL OF AN INDIGENOUS ZERO WASTE APPROACH

*Me āpiti e ia te māramatanga o ngā tohunga Māori ki ngā mātauranga o te ao hou o te Pākehā*
He should place side by side the insight of the Māori expert with the knowledge of the new world of the Pākehā [non- Māori ] [3]

## 3.1 Introduction

This chapter situates this research in terms of post-development thinking and indigenous development. Recognition of the value of indigenous knowledge in creating sustainable development outcomes is explored and academic understandings of traditional ecological knowledge are briefly examined. Specific aspects of Māori understandings of the environment are then considered followed by a brief look at approaches to waste pollution taken by other indigenous organisations. The chapter concludes by acknowledging how the environmental philosophy underpinning the case study, Para Kore Marae Inc.,(to be discussed in Chapter 5), provides an alternative epistemology for waste minimisation warrants further consideration.

## 3.2 Embracing indigenous worldviews: the post-development approach

The post WWII concept of 'development' grew out of a post-colonial discourse which stressed the superiority of life in materially-rich industrialised societies (Ziai, 2007). However, the negative impacts of continuous economic growth modelled within western societies has called into question this view of development. Publication of the Brundtland Report (World Commission on Environment and Development, 1987) provided a watershed in understanding the alarming social and environmental consequences of continued growth (Alexander, 2012). The report presented the world with a striking picture of the unsustainable and inequitable nature of resource consumption and introduced the concept of 'sustainable development' (Sabbarwal, 2017). At the same time, the Brundtland Report highlighted the value of indigenous understandings:

> Tribal and indigenous people's … lifestyles can offer modern societies many lessons in the management of resources in complex forest, mountain and dryland ecosystems…. These communities are the repositories of vast accumulations of traditional knowledge and experience… Their disappearance is a loss for the larger society, which could learn a great deal from their traditional skills in sustainably managing very complex ecological systems (World Commission on Environment and Development, 1987, 114-15).

[3] Takitini, 1927

Recognition of indigenous understandings was heightened in the 1990s by thinkers within the post-development movement such as Escobar and Ferguson who questioned the very concept of development. Post-development scholars view the traditional concept of development as having technocratic and authoritarian overtones: those persons who define what form 'development' will take are in a position of power over what is considered 'positive social change', which leaves no space for alternative worldviews (Ziai, 2007). Post-development theory challenged the mainstream understanding of a positive relationship between economic growth and human wellbeing, and of development as an immanent process, to be sponsored by richer states as part of a duty to assist poorer nations (Corbridge, 1998; Escobar, 1995; Ziai, 2007). These western-centric paradigms include the concept of 'sustainable development' which emerged from the Brundtland Report and reached its zenith with the publication of the global Sustainable Development Goals(SDGs) in 2015.

Sustainable development viewed through a post-development lens symbolises the Western concept of 'progress' whereby a needy and disadvantaged 'Third World' is helped by more powerful Western countries to become modern and 'progressive' (Escobar, 1995). From a post-development perspective, the ethnocentric Western view of the world disallows alternative worldviews held by indigenous peoples. Salmond (2017) describes the ontological struggle and 'clash of different worlds' between indigenous paradigms and the 'twentieth century neo-liberal conception of the 'cost-benefit calculating individual'(p. 200). Deconstruction of the hegemony of modernity creates space for alternative worldviews including that of grassroots localised movements (Ziai, 2007). The grassroots Māori organisation, Para Kore, is located within this space, providing an alternative voice in one sector of the industrialised Western hegemony, that of the production and management of waste.

## 3.3 Indigenous environmental knowledge

Grassroots indigenous organisations often carry specific concerns for the environment (Sabbarwal, 2017). In recent decades, the voices of the estimated 370 million indigenous peoples around the world have gained increasing recognition through a global non-government movement of indigenous groups and communities exerting pressure at domestic and international level (Sabbarwal, 2017, p.27). The United Nations formally recognised the role of indigenous people and the value of their traditional understandings in the 1992 'Agenda 21' action plan (McGregor, 2000). Since then, scholarly and governmental studies have recognised the role of traditional ecological knowledge in protecting local ecosystems and sustainably managing natural resources (Berkes, Colding & Folke, 2000). In the Pacific, the Secretariat of the Pacific Regional Environment Programme is currently developing a model law for

protection of Traditional Knowledge as part of wider sustainable development initiatives (Farrelly et al., 2016). It must be recognised however that indigenous responses to socio-environmental realities such as waste issues are currently generally coming from people living within a westernised regulatory and monetarised social system. As such culturally-motivated responses to environmental issues are affected by the current norms of society and must be seen through the lens of immanent development taking place due to the world economic system (Maiaiva & King, 2007).

'Traditional Ecological Knowledge' (TEK) has been defined as: "Knowledge about the environment, knowledge about the use of the environment, values about the environment, and the knowledge system itself" (Usher, 2000). Yet such a definition fails to capture the spiritual element of indigenous understandings whereby a human being does not stand alone but shares a familial relationship with all other living species through a genealogy leading back to an Earth Mother (Tuhiwai Smith, 2012). Attempting to synthesise all these elements of TEK within an academic format led Houde (2007) to identify the six 'faces' illustrated in Figure 3.1.

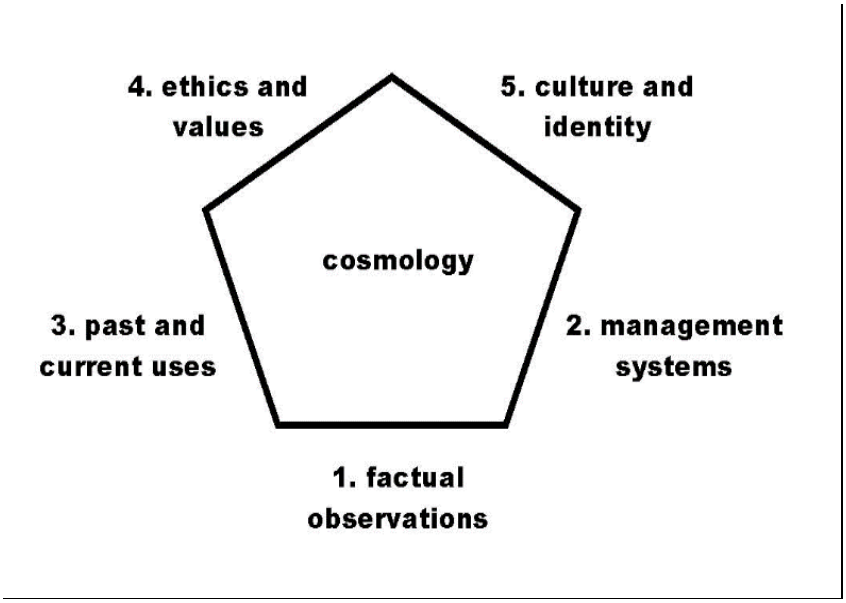



Figure 3-1: The six faces of traditional ecological knowledge. (Houde, 2007, p.5).

Despite increasing recognition, traditional knowledge has not been intellectually developed within academic institutions (Chandra, 2014; Tuhiwai Smith, 2014; Houde, 2007). TEK's metaphorical basis without detailed cognitive explanations has led western environmental scientists to view TEK as non-systematic and non-quantitative and thus inapplicable to wider contexts (Tuhiwai Smith, 2014). This view that it lacks academic rigour has resulted in alternative cultural perspectives being only rarely acknowledged within the current discourse

around sustainable development (Chandra, 2014). An example of this can be found in the Secretariat of the Pacific Regional Environmental Programme which publicly espoused the need for traditional and culturally sensitive methods of education to reach wider audiences, yet the Strategic Plan for 2010-2015 still failed to include traditional local understandings in waste minimisation strategies (Secretariat of the Pacific Regional Environment Programme, 2009).

Consensus is growing however that blending TEK with modern science is beneficial in management of resources, despite lack of agreement on how best it can be utilised (Dallmeyer, 2003; Houde, 2007; Ngata, 2018). Dallmeyer (2003) however urged caution: just because knowledge is sacred and traditional does not mean it equates to wisdom and some scholars such as Kastrup (1997) point to certain traditional practices such as shifting cultivation as destructive of local habitats. Houde (2007) for example, sees TEK as allowing co-management programmes for environmental areas between Canadian state bureaucracies and indigenous groups. Berkes et al. (2000) identify the value of TEK within the different areas of conservation of biodiversity, rare species, and protected areas, in ecological processes and in general sustainable resource use. Ngata (2018) advocates for providing sufficient resources to indigenous peoples to empower them to utilise to full potential their knowledge of the interconnectedness of the world on behalf of us all: "'Sometimes we just need other people to step out of the way and let us [indigenous people] do what we have always done quite well."

## 3.4 Indigenous waste movements

A decade ago, zero waste approaches were critiqued as failing to invite differing worldviews that could create strong enough intervention into current systems to bring about effective change (Greyson, 2007). However, there is a lack of case studies in formal academic scholarship regarding organisations addressing issues of waste from an alternative indigenous paradigm. Para Kore, the subject of this case study is one such organisation, other findings are detailed below.

The 'Nobody's Trash' Indigenous Marine Debris Network (IMDN) is a waste-focused grassroots organisation initiated by indigenous Australians (Marshall, Smith, Henifin, & Exley, 2016). It developed through growing awareness that current systems of governance within the waste arena relied on short-term technological iterations rather than their own cohesive and sustainable worldview (Marshall et al., 2016). IMDN views marine litter as threatening the ocean, which they view as their own tribe's totem and life force, as well as something that denies indigenous people worldwide their right to a culture based on a clean environment. The network aims to support Pacific coastal communities to look at themselves and their future

livelihoods and develop initiatives to remove and mitigate future pollution of the ocean from both rural and urban areas (Marshall et al., 2016).

An example of a collaborative approach between mainstream Western approaches to waste management and that of indigenous peoples is provided by the community-based Earth Keepers Solid Waste Management Program in Ontario, Canada (McGregor, 2010). This is a state-run waste management programme that incorporates indigenous knowledge which developed through input and consultation with First Nations People in Canada (McGregor, 2010). In contrast to other environmental resource management initiatives that merely inserted fragments of indigenous knowledge into a western framework, McGregor (p. 92) considered this initiative as having 'taken the first step in decolonising its waste management efforts' by incorporating TEK during the programme's development. Yet, for the Canadian First Nations people themselves, while incorporation of their traditional understandings within this sustainable development initiative was valued, it did not go far enough. They perceived a need for 'holistic development' incorporating every facet of life rather than individual sustainable development initiatives such as this one focusing solely on the waste management aspect (McGregor, 2010).

Ngata (2018), the 'Non-Plastic Māori', views plastic waste as arising from a model of colonialism and the central idea of entitlement to resources. A small powerful elite, in this case the companies that create disposable plastic items, view it as their right to profit from abusing the bodies of others (T. Ngata, personal communication, November 18, 2018). For example, the ingestion of toxic plastic by pelagic[4] fish. Not only is the plastic toxic but it is lipophilic, attracting and concentrating toxins such as PCBs and flame retardants which Pacific householders then ingest. Ngata points out that it is those least responsible for their production that are suffering the greatest effects. Nonetheless, Ngata believes that after generations of resisting colonisation, Māori and other indigenous peoples are well-placed to create a resistance movement to prevent manufacturers further ‘colonisation’ of the oceans through waste plastic. “We indigenous people are holding the front line in the defence of this planet (…) because we are descendants of Mother Earth and that is our responsibility” (T. Ngata, personal communication, November 20, 2016). The Māori belief in a connected relationship with the natural world and consequent ensuing responsibilities challenges the concept of the environment as a depository of resources which underpins Western capitalism.

[4] Open ocean

## 3.5 Māori environmental stories and philosophies

The Māori understanding of a shared essence of life with living and non-living beings (Patterson, 2000; Salmond, 2017) is apparent in traditional Māori *whakatauki* such as " Ko au ko te awa. Ko te awa ko au" [I am the river and the river is me] (Rudge, 1993). Such a relationship between people and the environment contrasts with the Judeo-Christian view of the world from which Western capitalism has developed. In place of a hierarchical structure with God at the top and creation sorted into descending categories and ranks, the Māori story of creation provides an understanding of all living creatures including humans as part of a web of universal kinship (Patterson, 2000; Tuhiwai Smith, 2012; Salmond, 2017).

The understanding that a human being does not stand alone but shares a familial relationship with all other living species through a genealogy leading back to an Earth Mother, is at odds with the materialistic dogmatism of western systems of knowledge. For Para Kore, the subject of the case study in chapter 5, normalising the diversion of waste from landfill on marae is seen to align with core cultural beliefs relating to the Māori world view of caring for *Papatūānuku* [the Earth Mother] and *Ranginui* [the Sky Father] (Forbes, 2014). Related to this world view are the traditional Māori cultural principles of k*aitiakitanga*[5], *whakapapa*, *manaakitanga* and *māramatanga* chosen as the four founding values for Para Kore. As the following section explores, these concepts do not translate directly into English and full comprehension requires knowledge of Māori spirituality and legends. It must however be noted that the spiritual element within this Māori worldview can be challenging for Western environmental scientists who tend to view such understandings as non-systematic and non-quantitative and therefore inapplicable to wider contexts (Tuhiwai Smith, 2012).

### *3.5.1 Māori understandings of creation and relationship with the natural world*

Māori creation narratives vary amongst different tribes (Auckland Council, 2018). However, consistent key themes not only reinforce the relationship between humans and the environment but also define the third, spiritual, element to the relationship (Salmond, 2017). Within the creation story narrated below, synthesised from accounts gleaned over the years from other storytellers, lies a non-materialist worldview and *māramatanga* [enlightenment] regarding people's relationship to the environment.

> *When the world was young, it consisted of Papatūānuku the Earth Mother and Ranginui the Sky Father clasped in a tight loving embrace. Their children, the gods of the world, were tightly held between them. Like all young people, as these children grew, they*

[5] Commonly translated as 'guardianship', 'lineage', 'hospitality', 'insight'

*wanted more freedom. Seeking to find a way to escape from this oppressive darkness, they discussed the matter at length. Finally, despite some disagreement, Tāne, God of the forest, pushed his parents apart until their father Ranginui was forced naked up into the sky and their mother, Papatūānuku, also naked, lay under their feet. While Tāne and his brothers now had the freedom they wanted, Tāne was distressed to see his parents in this state and clothed his father with stars and the clouds and his mother with forest trees, animals and birds. A while later, Tāne picked up some earth and sneezed life into it to create a woman who became his wife. It was from their children that all people descended.*

The understanding within this story is that living beings of all species including mankind are descendants of the same *whakapapa*, from the Earth Mother herself. Humans share kinship with all living creatures (as well as other elements of nature such as rivers and mountains) so no creature is intrinsically more important than another (Patterson, 2000; Tuhiwai Smith, 2012). The concept of *whakapapa*, which literally means 'to place in layers', encodes connections between living and non-living in an understanding not dissimilar to western science's use of Linnaean taxonomy and phylogeny to delineate evolutionary relationships (Kahui & Richards, 2014). The virtue of caring for others, as embedded in the Māori understanding of *Manaakitanga* (often translated as 'hospitality' but more fully understood as honouring or lifting up [*aki*] someone's *mana* [personal dignity or standing]) is illustrated by the way Tāne looks after his parents after he has separated them. There is a clear message: although people may need to do things that disrupt the earth, it is their duty, as Tāne did in clothing his parents, to do one's best to mitigate the harm (Patterson, 2000).

The familial connection between humankind and the natural world negates the western concept of 'ownership' of land and resources. At the same time, it creates the obligation for *kaitiakitanga* of the natural ecosystems we inhabit (Kahui & Richards, 2014; Patterson, 2000). Yet to reduce Māori understandings regarding the environment to mere pragmatic aspects of 'guardianship' and 'caring for others' is reductionist and incomplete. Conceptualising *kaitiakitanga* and *manaakitanga* in this way creates a comfortable similarity to the western modernist scientific approach of 'sustainability' and is sometimes mistranslated as such (see reference to Far North District Waste Management and Minimisation Plan below). However, full understanding of Māori environmental philosophy requires acknowledgement of the spiritual connections between all living and non-living parts of the world through joint descent from the gods. Such connections form a 'triadic relationship' of people, the environment and

the spiritual realm which is kept in balance through time and space within a framework of *whakapapa (*Kawharu, 2000, p.367).

This spiritual understanding creates an expectation for Māori that before making use of elements within the natural world, their *tapu* [sacred] nature as descendants from the great *atua* [gods] will first be acknowledged and respected (Patterson, 2000). Historically, breaking a *tapu* of low intensity could lead to confiscation of the offender's property while a more serious offence might incur physical punishment by the chief along with an expectation of sickness through a spiritual attack on the offender's *mauri* [life force](Kahui & Richards, 2014). The Māori story of the canoe-builder Rātā, described in my own words below, provides an illustration of this duty as humans to honour the sacred nature of resources we wish to use (Patterson, 2000). The work of the *kaitiaki Rātā* encountered embody different elements within the concept of *kaitiakitanga. 'Tiaki'* means to guard but it also means to protect, preserve and shelter while the prefix *kai* refers to someone carrying out an action. Today's human *kaitiaki*, the people inhabiting a local area, are expected to emulate the original *kaitiaki*, the gods of the natural world (Royal, 2007).

> *Rātā goes into the forest to cut down a tree to build a canoe he needs if he is to avenge the death of his father and so bring honour back to himself and his family. However, when he reaches the tree of his choosing, he fails to say the ritual prayers to honour this tree and respect its tapu nature before he cuts it down. At the end of the day, having felled the tree, Rātā returns home for the night but when he returns the next day, he finds the tree standing and growing as before. The kaitiaki (guardians) of the forest, the birds, have picked up every single piece of wood and reassembled the tree. Rātā chops it down again but that night the same thing happens again. The next day, after Rātā has felled the tree for the third time, he hides in the bushes when nightfall comes to observe what happens. When he sees the kaitiaki he realises his mistake in not honouring the tree before he felled it and begs forgiveness. Once the kaitiaki are convinced that the forest has now been honoured and hear that he wanted the canoe for an honourable purpose they then help Rātā complete the work*.

Individual and collective responsibilities to honour the natural world develop not only from the *tapu* nature of living and non-living beings but also the understanding of their *mauri* [life force] and *mana* [dignity/status] and how these interlink. The life force of *mauri* is inherent in every living thing and in such things as rocks, stones, rivers, mountains and villages (Patterson, 2000; Salmond, 2017)). Through their common lineage back to *Papatūānuku*, *mauri* connects people to the land they inhabit, nourishing their inner self as well as providing for physical

needs (Patterson, 2000; Tuhiwai Smith, 2012). The intrinsic shared quality of *mauri* means that when one creature suffers unnecessarily, others living beings are also harmed. Patterson (2000) identifies the inherent message in this: the world is not ours, each living creature has an intrinsic value and the welfare of the whole depends on the welfare of each individual. Compared with the western concept of sustainability, this understanding provides a deeper rationale for care of every element within the natural world.

### *3.5.2 Māori understandings of collective environmental responsibility*

For Maori, looking after the natural world and respecting the mana of other living creatures and indeed *Papatūānuku* herself, is the way to earn standing in the land both for themselves and for those around them. For *mana* to flourish within the forest or sea, *tapu* restrictions known as *rāhui* [prohibited areas] may declare certain areas off-limits (Royal, 2007). In contrast to western concepts of utilitarianism and individual human rights, gains in 'environmental mana' (Patterson, 2000, p.23) belong both to the individual and their wider tribe, as do responsibilities, so that actions that impinge on *mana* effect everyone.

In Māori society, maraes are used not only as a meeting place for everyday affairs and ceremonies but also as a place to discuss and debate issues pertaining to resource management (Kahui & Richards, 2014). *Kaitiaki* including chiefs, elders and resource specialists undertake the administration and management of resource use within a system that allows affected individuals to discuss and modify operational rules. In Māori *tikanga* [custom], local *tangata whenua* [people of the land] are understood to hold *kaitiaki* responsibility over a whole area of land or sea whether they 'own' it in the legal sense or not (Environment Foundation, 2018).

From a Western individualistic perspective, this Māori understanding of the responsibility to respect and care for all living beings as kin rather than as strangers seems quite onerous. However, despite potentially restricting the individual freedoms espoused by neoliberal society, this collectivist worldview offers two significant benefits when it comes to issues of public concern such as those of waste. First, the concept of shared responsibility for the environment lessens the chance that individuals will become overwhelmed and feel powerless. Secondly, opting out of responsibility for environmental issues because one has not personally caused it, does not fit within a collective approach (Patterson, 2000).

### *3.5.3 The place of Kaitiakitanga within NZ environmental and waste management policy*

In Section 2 of New Zealand's Resource Management Act (1991), *kaitiakitanga* is defined as the exercise of guardianship of an area and the stewardship of its natural and physical resources in accordance with *tikanga Māori*. While in practice, natural resources are currently managed

either directly by those having formal legal ownership, or indirectly through the exercise of statutory authority, *kaitiakitanga* has a deeper significance than mere guardianship by sustainable management of resources in the European sense (Environment Foundation, 2018). While the vision of the Department of Conservation recognises the concept of *kaitiakitanga,* New Zealand waste management strategy lacks significant Māori involvement in research, management or policy development (Pauling and Ataria, 2010).

Although the Waste Minimisation Act (2008) requires the Minister to consider the need for the Waste Advisory Board membership to include members with knowledge of *tikanga Māori*, no reference to *kaitiakitanga* appears in either the Act or the NZ Waste Strategy 2010. However, the concept has found some recognition within local government waste minimisation strategies including my own region. *Kaitiakitanga* was adopted as one of the six core principles of the Far North District Council Waste Management and Minimisation Plan (WMMP) 2017-2023 (Far North District Council, 2017). Regrettably however, wording used demonstrates lack of understanding of how the concept differs from the western model of sustainability. Greater clarity is found within the Auckland City WMMP 2018 -2024 which states its purpose as 'working together for zero waste'. The plan includes a strong focus on how this goal of zero waste aligns with the concept of *kaitiakitanga* and it recognises how Māori knowledge and expertise can contribute to the sustainable waste management sector (Auckland City Council, 2018).

## 3.6 Conclusion

Within a post-development paradigm, indigenous worldviews are viewed as offering an alternative approach to mainstream environmental problems. Increasingly, state actors and academics acknowledge the value of traditional ecological knowledge to resource management and environmental protection. However, indigenous epistemological responses to waste issues have not been widely covered in the literature. Māori environmental philosophy portrays humankind's interdependent relationship with the natural world and upholds collective responsibility. *Kaitiakitanga* differs from western concepts of sustainability wherein 'guardianship' is not resource-based but predicated on deeper principles of protecting fellow family members of all species, seen as coming from the same lineage so that honouring their sacred dignity and shared life force is expected. This Māori understanding regarding the natural world is central Para Kore Marae Inc.'s approach to waste issues, the case study presented in Chapter 5.

# 4 METHODOLOGY

## 4.1 Introduction

This chapter outlines the qualitative methodology and case study approach used in this research. The alignment of qualitative approaches with the Kaupapa Māori principles and ethical issues, including my positionality as an outsider within an indigenous setting are considered. Finally, a brief outline is provided of the methods and tools used to gather, handle and analyse data to answer research questions two and three:

| | |
|---|---|
| Q2 How does the Para Kore approach differ from mainstream solid waste minimisation approaches and what are the underpinning philosophies? | Q3 How is the Para Kore approach to zero waste working out in practice and what are the challenges? |

## 4.2 Methodology: A qualitative approach

A post-development perspective frames this research. I wanted to explore whether Para Kore was able to engage Māori in responding to waste issues from outside our dominant neo-liberal waste minimisation narrative, aligning them with their own cultural understandings of the natural world. It has been important that my research be of service: to the people interviewed, to the Para Kore organisation and in reducing destructive impacts of waste to our environment. To meet all these needs, I opted for a qualitative case study approach.

Qualitative methodology offers this research the tools to seek the deeper stories, broader motivations and "holistic meaning" (O'Leary, 2014, p. 130) in responses to waste minimisation by people whose cultural principles regarding environmental protection are in tension with society's dominant throwaway culture. Mainstream waste minimisation practice and literature is frequently framed within a Western positivist model, but I wanted to explore the post-development notion of a 'plural landscape of knowledge forms' (Escobar, 2007, p.27) rather than focus wholly on Para Kore waste reduction facts and figures. Further endorsement of the choice of a qualitative methodology comes from Stewart-Withers, Banks, McGregor & Meo-Sewabu's (2014) recognition of qualitative methodology as effective for studying communities in their own environment where they work and live.

Moreover, choosing a qualitative approach aligned with my responsibility to create respectful and honourable relationships with Māori. The value placed by Māori on oral histories and narratives resonates with a qualitative approach (Bishop, 1998). Gibson-Graham (2005) recognise how diverse economies within communities, such as those found on maraes, elicit a need to use methods of investigation that honour breadth and depth of knowledge. Furthermore, my wish from the beginning was to co-create knowledge of value not only to

myself but to the participants and their organisations and the Para Kore organisation itself. Supporting stories and local understandings to give power back to the people is an important outcome from research (Gibson-Graham, 2014).

## 4.3 Positionality

I remain challenged by Tuhiwai Smith's (1999) observation that research carried out by Westerners 'conveys a unique sense of superiority and an overabundance of desire to bring progress to indigenous people' (p.56). I am a white, middle-class, educated older woman, born and raised in England, wanting to undertake a study concerned with a Māori-based organisation. However, on the plus side, I'm a grandmother who wishes for a better world for my *mokupuna* [grandchildren], I'm passionate about the issue, and this research project opens spaces to work alongside Māori stakeholders as allies in a shared vision to see New Zealand's transformation to a zero waste society. I have also been following the development of the Para Kore organisation with interest for several years. Before undertaking this research, not only had I taken part in two annual Para Kore hui, worked alongside Para Kore staff and volunteers at several zero waste events, but I had often connected with them over areas of shared waste activism and advocacy. This had revealed a strong commonality through our shared love for the natural environment and our concern about the devastating impacts of waste. I bring my uniquely broad range of Pacific Island experience, New Zealand waste minimisation advocacy and activism, and my passionate wish to add to knowledge of how to transform to a zero waste world. While as an 'outsider' my viewpoint will in some ways be a limitation and bring its own inherent biases, I do bring a broad comparative perspective. With the support of friends within Para Kore, I felt encouraged to proceed with this research.

## 4.4 Ethical considerations

My own ethical mandate is to conduct culturally sensitive research. Issues of cultural safety remained paramount (Cunningham, 2000). The Massey University In-House Ethics review and approval process provided checks and balances regarding adherence to ethical standards, possible conflicts of interest and informed consent. This project was confirmed to be low-risk. However, I remain aware that ethical research goes beyond simply adhering to a code of conduct: the importance of understanding and honouring Māori values and correct protocols cannot be underestimated (Walker, 2006; Tuhiwai Smith, 2012).

Fitzherbert & Lewis (2010, p.139) pose a question to the researcher, "whose story, whose place, whose benefit, and whose right to speak and in what ways ?" Historically, western-style research methods have been identified as delegitimising the Māori worldview, valuing objectivity and neutrality above other epistemologies (Bishop, 1998; Walker, 2006). Moreover,

knowledge has been extracted without reciprocation, a process incompatible with Māori values (Tuhiwai Smith, 2012; Walker, 2006). In contrast, the principles of Kaupapa Māori (practices and philosophies of being Māori) research emphasise Māori maintaining control of all aspects of the research to ensure that power imbalances are avoided, that the Māori worldview and the use of *te reo* [Māori language] are asserted, and overall that there is "collective care of knowledge, culture and values" ( Walker et al., 2006, p. 334). I have remained aware of my own status as an 'outsider', however a central tenet in my development of research methods for this project has been to honour the values, principles and practices encapsulated in Kaupapa Māori research.

Tolich and Davidson (1998) suggest that 'outsiders' (including *Pākehā* carrying out research with Māori) find 'gatekeepers', that is people to facilitate their entry into restricted locations and vouch for their credibility. For me, prior relationships with members of the Para Kore organisation and the mutual respect gained over the years within the Para Kore movement helped guide me through protocols and processes and create the required trust for successful interviews. I was able to determine how best to provide generous reciprocity and appropriate ways to reflect my findings. Tuhiwai Smith's (2012) seven suggested principles for a researcher to honour when working alongside Māori reflect the cautionary way I proceed within any setting hosted by people of a different culture to my own. I continued to use these as a guide:

- *Aroha ki te tangata* (a respect for people).
- *Kanohi kitea* (the seen face; present yourself to people face to face).
- *Titiro, whakarongo, korero* (look, listen … speak).
- *Manaaki ki te tangata* (share and host people, be generous).
- *Kia tupato* (be cautious).
- *Kaua e takahia te mana o te tangata* (do not trample over the mana of people).
- *Kia mahaki* (don't flaunt your knowledge).

(Tuhiwai Smith, 2012, p. 210)

## 4.5 Research methods: A case study approach

After consideration of five main methods for qualitative research (Travers, 2001), the time constraints of this 60-credit research project suggested a small multiple case study model would be appropriate. This was endorsed by O'Leary's (2014) view that in qualitative research, multiple realities can be discovered through the study of a small number of in-depth cases. Fieldwork was carried out in three different locations, consciously selected as within reach of my home in Northland to allow further development of long-term relationships after the conclusion of this research, both on a personal level and in my role as an advocate and activist for zero waste. The selection of appropriate 'insiders' (O'Leary, 2014, p. 192) as key

informants to share their lived experience of the Para Kore programme was answered through the offer of Para Kore CEO Jacqui Forbes, whom I have known for several years. On meeting with each participant, a one-page project summary was discussed to provide the basis for informed consent.

Interviews were open-ended, guided conversations, using my chosen themes along with additional themes of interest to members of Para Kore, an essential element of the partnership approach to this research. I prioritised enough time to listen for shades of meaning underlying narratives, aware that an 'outsider' may miss 'subtleties, nuances, and sometimes the significance of what takes place' (Walker et al., 2006, p. 5). .

## 4.6 Data collection and analysis

I used 3 methods of data collection: interviews, a reflexive journal, and information and photographs provided by informants. After consent had been given, data was collected through recordings made on my phone. An interview guide provided questions, themes and prompts to extend the answers provided by the informant. I used a reflexive journal while some informants sent information and photographs to back up what had been discussed. When opportunities arose, at the interview sites and at the annual Para Kore hui held in November 2018, stories from others allowed me to triangulate a fuller intergenerational understanding.

A reflexive and iterative process was used for thematic analysis of transcribed data. With no pre-existing framework available for analysing this data, categories arising from the data sets were synthesised into themes to explain broad ideas and create a framework of understanding.

## 4.7 Overview of participants

| I.D. | Interview Location | Personal Details /home marae | Association with Para Kore |
|---|---|---|---|
| J | Kaitaia | | Former *kaiarahi* [educator] for Te Hiku [Far North Region] |
| H | Kaitaia | Partner of [J] | |
| P | Te Wānanga o Aotearoa campus, Hamilton | [P] is the sustainability manager for this national wānanga [university] of 33000 students/ 1300 staff | Te Wānanga contracts Para Kore to facilitate its waste programme. |

| | | | |
|---|---|---|---|
| M | M's own *Papakainga* [shared housing] and Turangawaewae Marae | [M] is a 'champion' of Para Kore, promoting uptake of zero waste at the marae & households as well through his role as a high school teacher | Turangawaewae was one of the first marae to join the Para Kore movement |

## 4.8 Limitations and Conclusions

The choice of qualitative methodology seemed an appropriate way to honour and investigate cultural understandings regarding waste reduction issues. The participants' willingness to articulate their cultural and spiritual beliefs to me as an outsider was humbling. While the small number of case study interviews carried out due to scope of this Masters Report could be seen as a limitation, and my personal subjectivities must inevitably influence the data gathered, similar themes however did emerge from each informant. These themes form the basis of Chapter Six.

# 5 INTRODUCING THE CASE STUDY: THE PARA KORE APPROACH

## 5.1 Introduction

This chapter presents the case study, Para Kore Marae Inc., the New Zealand zero waste organisation founded in 2009 (Para Kore, 2015). Para Kore is a community-based not-for-profit organisation that delivers waste minimisation training to marae and other organisations throughout Aotearoa (Para Kore, 2015). 'Para kore' is a Māori phrase meaning Zero Waste developed from two Māori words: '*para*' meaning unwanted rubbish and '*kore*' meaning nothing (Para Kore, 2015). Section 5.2 begins by outlining the vision and philosophical approach behind this Māori Zero Waste organisation. Section 5.3 describes the foundation and development of Para Kore since its inception a decade ago. Section 5.4 outlines how the vision of Para Kore is implemented in practice before Section 5.5 investigates the organisation's involvement in wider issues touching on waste. The conclusion in Section 5.6 leads into the next chapter which presents findings relevant to Research Questions 2 and 3.

## 5.2 Vision, principles and alignment with Māori environmental philosophy

The Māori philosophies of respect and connection to the natural world (explored in Chapter 3) are reflected in the Para Kore founding values, *kaitiakitanga*, *whakapapa, manaakitanga* and *māramatanga*, and vision: *Riro taonga mai, hoki taonga atu / we receive valuable resources from Papatūānuku, we return valuable resources to her* (Para Kore, 2015). Lifestyle changes are expected through the practical introduction of alternative solutions, embedded in cultural environmental understandings. In contrast to waste approaches focused within technological or policy frameworks, the Para Kore approach to waste is three-dimensional, showcasing Kawharu's (2000) triadic relationship model of people, the environment and the spiritual realm.

For the Para Kore organisation, normalising waste diversion from landfill aligns with core cultural beliefs relating to the Māori world view of caring for Papatūānuku and Ranginui (Para Kore, 2015). It is an approach reflected in educational materials, as illustrated in Figure 5.1. Actioning the *tikanga* of caring for Ranginui and Papatūānuku involves embracing a Circular Economy for continuous cycling of inorganic materials and returning organic nutrients to the Earth (Para Kore, 2016). For example, landfills and incinerators (on or off the marae) are viewed as wasteful and 'ultimately harm our health' (Para Kore, 2015, p.5). The aim is to " de-normalise a throw-away mentality'(Para Kore, 2016, p.5) and to normalise consumption of local products. Recycling is seen as a 'last line of defence' with emphasis on promoting refuse, reduce, re-use and composting behaviours (Para Kore, 2016).


Figure 5-1: Example of supporting material produced by Para Kore (Para Kore, 2018d).

The intention of Para Kore education programmes is for *whānau* to gain or regain awareness of their relationship to natural resources through *whakapapa* to *nga atua* [the gods of creation] (Forbes, 2014). Participants understand that these resources are *taonga* [precious treasures] so that waste is rebranded as a resource to be reused, recycled and composted (Para Kore, 2015; Forbes, 2014). A stated outcome of Para Kore is to provide *whānau* [extended family]with a conduit to the understanding and practical application of customs of *kaitiakitanga* practised by their *tūpuna* [ancestors] (Para Kore, 2015). This reflects the position of Royal (2007) who viewed an understanding of *kaitiakitanga* as allowing Māori to feel they are meeting the responsibilities passed on by their ancestors.

Actively practising *kaitiakitanga* allows a vision of environmental regeneration:

> Let's imagine a world where every product is created in a way that regenerates our environment and is designed to last or to be re-used, repaired or re-cycled. Imagine a world with no landfills, where all waste from one process is a resource for another process. A world with healthy soils, diversity of species, healthy ecosystems, cultural food gathering practices, clean rivers that you can drink from, safe food grown locally, plenty of resources and people enjoying happy lives (Para Kore, 2018a).

A Para Kore board member, (Rawinia Leatherby in Para Kore Media, 2017) sums this up: "We are being active *kaitiaki* as Para Kore *whānau*, looking at the *whenua* [land], looking at the health of our rivers, our *tuna* [eels] within the rivers, and also looking further down to our *moana* [sea]."

## 5.3 Organisational growth and current structure

The Para Kore organisation developed out of a series of hui called by Waikato Regional Council in late 2008 to look at waste minimisation on marae (Para Kore, 2016). In 2009 a pilot programme funded by the Sustainable Management Fund was initiated under the auspices of Xtreme Zero Waste, a community recycling social enterprise operating in Raglan (Para Kore, 2016). Zero waste education was introduced into an urban marae in Hamilton, a small semi-rural marae in Raglan and Turangawaewae, the national marae in Ngaruawahia (Forbes, 2014). In November 2010, Para Kore was formalised as an Incorporated Society, 'Para Kore Marae Incorporated', grounded within a framework of *kaupapa* and *tikanga Māori* [Māori custom](Para Kore, 2016). The goal set was Herculean but clear: by 2020, all maraes in New Zealand will be working towards zero waste (Para Kore, 2016), a target recently extended out to a more achievable 2025 (Para Kore, 2018b).

By 2015, *kaiārahi* [waste educators/advisors] were working in 30% of the country with help increasingly sought by non-Māori community organisations (Para Kore, 2015). A year later, Para Kore was working in 6 regions of New Zealand (receiving financial support from the national Waste Minimisation Fund and Auckland and Gisborne council) and had 117 marae on its waste minimisation programmes (Para Kore, 2016, p.10). Diversion rates of waste from landfill were averaging 69% by the end of 2016 and *kaiārahi* had delivered the message to over 50,000 New Zealanders through workshops, presentations and events (Para Kore, 2016, p. 10). The ongoing success of the programme received media attention the same year when Para Kore won the prestigious Globe Energy Award for sustainability (Māori Television, 2016). The jury-rating noted the work of Para Kore in reducing the huge environmental challenges of air and waterway pollution posed by landfills and backyard burning in New Zealand (Energy Globe, 2016).

Para Kore is governed by a Board of nine members, six of whom represent regions in New Zealand (Para Kore, 2018). Management and administration are looked after by five full-time employees and five part-time contractors, and twelve *kaiārahi* are currently contracted to deliver the programme regionally. The annual *hui* [conference] and AGM is attended by over 100 people. The national Para Kore office, based in Raglan, has continued to develop systems and processes with the goal of expanding rapidly into the remaining regions across the country (Para Kore, 2016).

By 2018, almost a decade since the inception of Para Kore, the mission remained the same: ‘To make waste minimisation a social norm within Māori society” (Para Kore, 2018, p.6) but the organisation’s growth was increasing. Para Kore was working in 12 regions of New

Zealand, active in 288 marae and had taken the zero waste message to 51 major events (Para Kore, 2018b). The Para Kore message had reached close to 200,000 participants at presentations and events and over 250 tonnes of waste have been diverted from landfill (Para Kore 2018c). By 2018, social media following had grown to 5400 with one video had been viewed 28,000 times (Para Kore, 2018, p.6). Most of the work continues to be hands-on waste minimisation education and all such non-consultancy services are delivered free (Para Kore, 2018b). In the year ending June 2018, the number of organisations grew by 31% with 89 new marae, organisations, *kura*[schools], and *kōhanga reo* [early childhood centres] (Para Kore, 2018b). In addition to this work, Para Kore has also commenced business consultancy work with Wakatū Inc. and Te Wānanga o Aotearoa (Para Kore, 2018b), a national university of 33,000 students. Figure 5.2 provides a detailed timeline of the organisation's development to date.

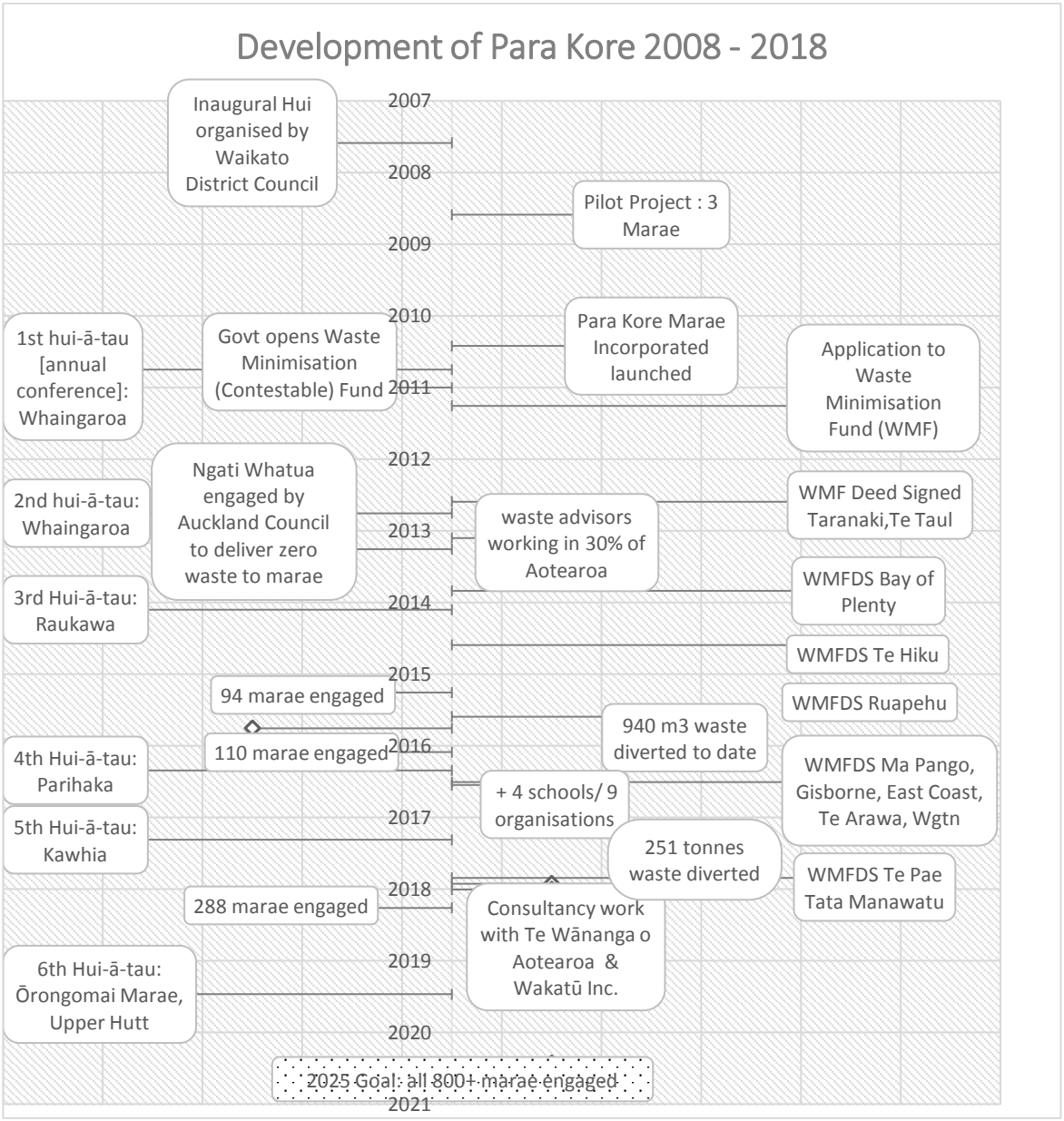


Figure 5-2: Development of the Para Kore organisation 2008 – 2019.

## 5.4 Programmes and practices

Marae in New Zealand feed over 500,000 people annually and in recent years have generated increasing amounts of waste (Para Kore, 2015). The initial 2009 pilot study undertaken in the Waikato found three pivotal factors for successful implementation of the Para Kore waste minimisation message: having the right marae champion, a committed and supportive marae committee and the opportunity to provide regular education to the marae whānau (Forbes, 2014). Introduction of the Para Kore programme to a new marae now begins with a presentation to the marae committee, and on agreeing to implement the programme they appoint a marae champion, sign a memorandum of understanding and conduct a waste audit (Para Kore, 2015). The waste audit highlights which waste streams need attention and appropriate workshops are undertaken with marae whānau and recycling bins and wall signage provided. Initially, Para Kore *kaiārahi* approached marae directly through 'cold calling'. However, social diffusion through the highly networked marae system and increasing Para Kore 'brand' recognition has raised awareness about the programme (Para Kore, 2018).

Over the past seven years, Para Kore have tested a range of formats and delivery methods to achieve the education programme five goals. Marae are expected to:

i. identify as kaitiaki;
ii. see waste as a resource;
iii. have the knowledge and skills to recycle and compost;
iv. take newly learnt behaviour to their homes and workplaces; and
v. identify further opportunities to close the loop and reduce waste (Para Kore, 2018).

Building relationships between the Para Kore waste advisor and the marae *whānau* is seen as important. Ongoing support and *wānanga* [workshops] are provided for several years to teach and normalise behaviours to wash and squash recyclables and separate of plastic bottles, steel cans, cardboard, food waste, and glass jars and bottles (Forbes, 2014). Research in other New Zealand spaces notes that uptake of waste reduction behaviours is indeed enhanced by such clear, accessible information and education and active engagement in waste management programmes (Tucker and Farrelly, 2016).

Tucker and Farrelly (2016) also identified regular feedback, normalisation of pro-environmental activities and immediate appreciation of its effectivity as incentivising uptake of waste reduction behaviours. Para Kore expects participating marae to monitor the amounts of waste and recycling sent offsite and feed this information into the online national data summary (Forbes, 2014), receiving regular updates. Participating marae note that recycling

systems are easy to use, create a happier whānau and a cleaner marae, with savings of up to 50% on their landfill disposal costs (Para Kore, 2015).

Naomi Simmonds, former Chair of Para Kore and lecturer at Te Wānanga o Aotearoa, notes that the "passion and excitement which grows for this kaupapa has been a catalyst for our whānau to participate in other sustainability measures both at home and on the marae" (Para Kore, 2015, p.4). Reduced food costs and improved health outcomes for members of the marae are expected from the preparation of food made from less processed and packaged ingredients with the development of communal gardens (Para Kore, 2015).

## 5.5 Involvement in wider NZ waste issues

When the global zero waste movement was established, it was viewed as having a wider political aspect in enhancing and increasing the self-sufficiencies of local economies and communities (Tennant-Wood, 2003). This same political self-determination is apparent within the Para Kore movement as two hui participants reflected in 2017. *"It's about finding grass roots, flax roots, community responses on how we take back control over our lives,"* and "*Para Kore makes part of a lifestyle, it's like a political movement, it's an environmental movement. I want my kids to inherit a world and a lifestyle that is thriving"* (Para Kore Media, 2017)

While the specific focus is on supporting marae, the Para Kore organisation's bigger vision is for a Zero Waste Aotearoa (Para Kore, 2018):

> The aim is to create a self-sustaining and robust network of Māori environmental advocates not only as a nationwide distribution channel for waste minimisation and environmental education but also as a strong voice for waste minimisation at regional and national levels to remind people of principles such as *Kaitiakitanga* (Para Kore, 2016, p.12).

To this end, the organisation's stated purpose includes seeking to collaborate and create supportive relationships with any individual, community organisation, council, business, government entity or NGO that shares this vision (Para Kore, 2016). The success of Para in building strong working relationships with *iwi* [tribes], industry and government is apparent in the funding obtained from the national Waste Minimisation Fund, regional and local government bodies, WWF and *iwi* authorities (Para Kore, 2015; Para Kore, 2018). Policy-makers and academics desire ecosystem-based management of our natural resources but in practice it rarely occurs (Kahui & Richards, 2014). However, the Para Kore organisation views its wider role as supporting councils to achieve the outcomes of the Waste Minimisation Act and the NZ Waste Strategy (Para Kore, 2015).

Furthermore, Para Kore's expectation is that Māori society at large will take an active and leading role in working towards zero waste, 'highlighting the way in protecting natural resources' (Para Kore, 2018). Waste minimisation behaviours learnt on marae are expected to be transferred to members' homes and workplaces leading to a normalisation of waste minimisation across communities and the country, which in turn will reduce waste to landfill and save costs associated with new landfills (Para Kore, 2015). Moreover, as New Zealanders gain pride in caring for our environment, cleaner land and waterways will open new opportunities in tourism and the resource recovery sector (Para Kore, 2015). Dunsford (2010) views Para Kore as a visionary project, worthy not only of implementation throughout Aotearoa but also as a model that could work well overseas.

## 5.6 Conclusion

Clearly, a strong ethic exists within Māori culture towards safeguarding and managing natural resources. For Māori, motivation to respect the environment comes from 'internal drivers' (Jollands & Harmsworth, 2007, p. 719) derived from the belief that all the natural world is interrelated through kinship and genealogical ties to the earth's primordial parents. This intrinsic connection to nature permits a more nuanced, holistic approach to waste than those contained within current western notions of 'sustainable waste management'. By starting from a different standpoint and weaving together spiritual, societal and environmental elements into a holistic community approach, Para Kore creates an alternative way to reflect upon and address waste issues.

# 6 FINDINGS

## 6.1 Introduction

Following on from introduction of the case study in the preceding chapter, this chapter presents the findings from the fieldwork (using the methodology outlined in Chapter 4). This chapter looks to answer:

**Research Question 2:** ***How does the Para Kore approach differ from mainstream solid waste minimisation approaches and what are the underpinning philosophies?***

**Research Question 3:** ***How is the Para Kore approach to zero waste working out in practice and what are the challenges?*** [6]

Three Māori participants each engaged in implementing the Para Kore approach, at work, at home, and in their marae, were selected. Participant 'J' is a former *kaiārahi* promoting Para Kore to marae in the Far North (additional input was provided by her partner [H]); Participant 'P' is employed as the Sustainability Manager for Te Wānanga o Aotearoa, and Participant 'M' 'champions' Para Kore at Turangawaewae Marae. These participants' responses provide rich insights into the influence of Para Kore on practical behaviours, but also highlight how Para Kore impacts and deepens participants' standing in the world. Analysis of the transcript data led to grouping broad ideas into four different thematic categories. Thus Section 6.2 considers how the philosophy underpinning the Para Kore programme creates a holistic understanding of the zero waste journey. Section 6.3 focuses on political aspects that emerge while Section 6.4 describes practical challenges the participants highlighted. The next section, 6.5, considers to what extent the Para Kore approach is Māori-specific. Finally, Section 6.6 summarises the findings which are then discussed in Chapter 7.

## 6.2 'Para Kore is not just about waste': Wider philosophies

The holistic impact of Para Kore is frequently acknowledged by participants, in contrast to state-led technocentric strategies focused solely on fixing the waste issue. While they acknowledged the importance of zeroing waste to landfill for environmental reasons, participants saw this as just one interconnected part of a wider picture of the wellbeing of humankind and the natural world. Participants valued Para Kore for providing tools '*to try and change the Western way that we do things, which is chuck everything in the rubbish, and put everything onto the road, and someone else will pick it up*'[J] but saw improvements to wellbeing as integral to the zero waste *kaupapa* too.

[6] Research Question 1: *What are the main approaches to solid waste minimisation currently promoted by State Actors aspiring to Zero Waste outcomes and what restricts their effectivity?* was answered in terms of the literature review in Chapter 2.

### *6.2.1 Enhanced health outcomes*

An increased emphasis on composting, for example, encourages local food growing. These food gardens then positively impact mental health:

> *We [will] have our own māra kai* [food gardens] *at every site, that is our gardens, at every site for both tauira* [students] *and staff, and people are engaging and going there, if they are stressed, they can go there and do their gardening* [P].

Physical health is also enhanced by the zero waste programme, as was exemplified in a plan to provide re-usable commemorative cups at an upcoming event:

> *You know they could reuse that again, take it home with them to have, a lovely cup for them. It would really reduce the amount of plastic bottles and aluminium cans. and we'd also be making a stand in terms of sugar diabetes by eradicating the sugar drinks. We thought we could do some kind of collaborating with our health institutions here, sponsor the water stations* [M].

Improved health outcomes are demonstrated in the holistic cultural initiative of introducing *konae*, small woven flax desk tidies, illustrated in Figure 6.1, into offices at Te Wānanga o Aotearoa. Employees make their own konae as the first step of an initiative to ensure each employee takes responsibility for the waste they generate:

> *It's something they've made, they've harvested the harakeke* [flax], *they know the whakapapa where that material comes from, they've spent the time making that and manifesting it in their mind, and then they put it on their desk as a reminder that, you know, do I really need to throw that away? Or is there another place for that to go? Can I recycle it, can I re-use it, should I be buying it, bringing this coffee cup into this, because it's only a small cube* [P]?

The initiative also encourages physical exercise in desk-based staff: "*So the cleaners are like, 'Oh, so we won't be needing to touch them?' And we said, 'No, it's up to staff to empty to promote walking' "*[P].

Figure 6-1: *Konae* [desk tidies] at Te Wānanga o Aotearoa. (Photo supplied by Participant [P]).

### *6.2.2 Spiritual and cultural connections*

Spiritual wellbeing is enhanced through caring for the natural world by minimising waste, something participants felt mainstream approaches lacked:

> *To me, it needs the spirit. And you cannot translate the spirit of things. I don't know why. But that's the thing I always thought was missing when I saw the Western view, like there's no wairua* [spirit] *in that. There's no heart in it. Yes, we're connected to nature but part of that, that soulful part of us that makes us human, we're also part of nature with that* [J].

As argued prior, this spiritual connection with the world lies at the heart of the concept of *kaitiakitanga*. One participant describes this as "*being the guardians of the land, and not only the land, and making sure that how we leave the land is better than how we received it"*[P]. Another portrays a further element to being a *kaitiaki*: understanding the "*connection to things, nature, and not just nature but ourselves, spiritually and physically, and spiritually with our people, with the human race, and with our natural world"* [J].

The Tau Ora programme at Te Wānanga o Aotearoa (displayed in Fig 6.2) graphically illustrates how Para Kore interlinks with wider holistic understandings. The Tau Ora initiative is now fully embedded within the organisation's policies and practices. The Para Kore programme sits within 'Taiao', the environmental facet of eight interlinked sectors considered necessary for staff and student wellbeing.


Figure 6-2: The Tau Ora programme at Te Wānanga o Aotearoa. (Image supplied by Participant [P]).

Intrinsic motivation to reduce waste is energised through the realisation that the Para Kore process enhances alignment with the other spiritual values and cultural principles. However, it cannot be forced upon people, it needs to come from within as they develop their own understanding: *"Yeah, I think the other thing too is it's not a command or a demand, it's more of a 'well have a look at it for yourself and discover for yourself'"* [M]. However, getting people 'on board' does not appear to be problematic: *"It's part of who we are as Māori, that holistic wellbeing is who we are, so it's not that difficult. You get the odd person who's 'nyeh', but you get that anywhere with anything"*[P].

One significant factor in motivating the uptake of Para Kore is how it allows practitioners to honour the values of previous generations [*tūpuna* ]. "*No more landfills. I suppose for me it's just going back to the way our tūpuna lived, eh? They didn't need all that shit. To me, they just lived simple, simple lives"* [H]. This understanding creates an intrinsic motivation to look after the environment:

> *I think people have come to realise that well actually this is our.., this is how our ancestors have, our tūpuna have a um particular set of values around how we treat the environment, and in order for us to honour them, we also need to, you know, really live up to those standards and really embrace those values ourselves* [M].

This cultural valuing of genealogy is also applied to the *whakapapa* [ancestry] of waste itself. The origin of products affects their impact on the environment:

> *You know, it's part of like the double-edged sword, on the one-hand we are extracting all this stuff out of the planet and then we are putting it back into the planet in places where it doesn't belong, and it shouldn't actually be there. It's just really having a huge impact on life as we know it* [M].

Conceptualising the whakapapa of waste is viewed as an excellent educational tool for communicating the upstream impacts of all manufactured products:

> *Yeah, one thing I love about Para Kore is they talk about the whakapapa of that material. So 'where does glass come from?' You know, they extract it from the sands. 'So, what is happening to our sands?' And making people think, 'Okay we are bringing that plastic in, but where was the whakapapa of that plastic? So, a reason behind it* [P].

All three respondents view *kaitiakitanga,* the Māori philosophy of guardianship that stems from a holistic connection with nature (see Chapter 4), as central to understanding why minimising waste is so important:

> W*e are nature, we are but nature, we are not above nature, we are, we are formed, we form, we are formed from nature. So, literally, that's the Māori world view, that our tūpuna is Mother Earth, Papa and Rangi, our whakapapa. That's uniquely our view* [J].

Furthermore, this awareness is embedded in culture and story:

> *I just think that as Māori we've got specific stories, histories and values that have been handed down through the generations through myths and legends, through songs, that just really connect us to that* [M].

### *6.2.3 Sharing the journey*

Participants recognised that resolving today's waste issues is a continuing journey and no immediate 'quick fix' exists. When asked what she would say to other marae or kura considering introducing the Para Kore approach, one participant suggested: "*Yeah, give it a go. Give it a go. One step at a time. And, yeah, it's a journey. Things don't happen overnight"* [J].

In contrast to Western public awareness campaigns targeting individuals, the waste minimisation journey is a shared responsibility, "*So that the journey isn't just ours, that we share that journey. The more that people can come on the journey, that's spreading the word."* This lies at the heart of Para Kore's education programme: "*the intention under Para Kore is actually, 'Everybody is responsible. Let's see if we can actually integrate the marae and their work, their workers into the management system, like running it'"* [J].

In the Para Kore approach, change spreads outwards, with waste reduction practices occurring first in Para Kore marae or organisations, then being adopted by individual households. As one householder described it:

> *We become a whole lot more mindful of our purchasing and shopping and stuff, buying in bulk. Storing bulk dry goods and buying our meat or sourcing it from hunters. Or having that come package-free and sent to the butcher and put straight into our freezer* [M].

All respondents acknowledge how household rubbish to landfill reduces significantly:

> Y*eah, our rubbish bag went from two a day, two a week to half a bag, when we are doing good. Some days we might buy new stuff and then the rubbish fills up. On a good day, on a good week, when I am conscious, our bag's gone, and that's with three kids and three adults in our house, and that's a half a one* [P].

## 6.3 'More control over our decisions': Political aspects of Para Kore

In addition to improved environmental and wellbeing outcomes, embracing Para Kore is argued to result in political changes. Interviewees outline a story of growing cultural and political identity, as well as increasing autonomy. As [J] articulated, "*Para Kore is not just about waste. It is (...) us having responsibility but more control over our decisions."*

### *6.3.1 Identity and sovereignty*

Individuals express a sense of increasing alignment with their cultural heritage, with Para Kore at the start of a transformative pathway to greater identification as Māori:

> *Taking on this Para Kore kaupapa helps give me the opportunity to hold my head high and say I am Māori, I am being Māori, I am living up to the dreams and aspirations of my ancestors that came before me* [M].

At marae level too, Para Kore endorses what people stand for:

> *I thought well, at our marae, which is the bastion of tikanga, we need to actually be living this tikanga , not just being the face of it but actually being it. And I thought that well, this is one way we can actually do that, align who we are with what we do* [M].

Furthermore, the ongoing struggle for greater sovereignty is wrapped into respondents' understanding of the Para Kore approach. *"Yeah, totally, this is all about sovereignty [J*]. Participants actively linked dependence on purchased processed food and consequent disposal requirements for single-use packaging back to historical political inequities:

> *Whenua, once the whenua went, got taken from us, it all went downhill from then. We are trying to do the best we can in terms of losing our whenua. And colonisation, I suppose* [H].

In a practical sense, participants viewed Para Kore as a vehicle to counter this lack of land. Creating the conditions for effective composting, for example, encourages gardening and local food production, which in turn creates food sovereignty and a chance to share resources and increase self-reliance:

> *We know today, where it's just that easy as, convenient, you can just go and buy that stuff. Drive throughs eh? For me, it is that, going back to our ways, how our tūpuna lived. What I'd like to see up here is just plastic bag free, plastic-free, more gardens. More gardens. And access to free food, really good food* [H].

### *6.3.2 Building social capital*

As a further spin-off, the Para Kore programme also empowers the surrounding wider community. Purchasing locally-sourced produce supports the local economy while reducing s packaging waste, *"Cos they're local, they come in a box and it's just like it's just a big box with*

*no plastic. Yeah, so cutting out that plastic chain"* [J]. At one Te Wānanga cafeteria, localising the source of products and the recycling of waste supports local businesses as part of the ongoing waste reduction initiative:

> *When you go to the cafeteria there will be a food waste bin now where you put all your food and that gets picked up by the local resident farmer. Yeah, he's got a pig farm, so they work closely with him, and have been working closely with him. They offer discounts on re-usable cups for their coffee, when you buy coffee from them and they also supply um, compostable coffee cups and not offering lids. They're using environmentally friendly cleaning products,*(and) *they are now buying locally resourced veges and food* [P].

Para Kore's ability to build social capital through localised purchasing and the re-use of organic waste for local food production is potentially transformative if upscaled nationally. However, to understand what may hold this transformation back, the next section considers challenges participants identified.

## 6.4 'Sometimes it's hot and sometimes it's not': Practical challenges

Unlike public campaigns disseminating information through media, the Para Kore approach is spread *kanohi ki te kanohi* [face to face] by 'champions' driving the initiative forward. Using face-to-face encounters to present new ideas aligns with Māori cultural practice. Participant expressed confidence that people will get on board if enthusiastic drivers are present. Often, these passionate 'champions' exist prior to the introduction of a Para Kore programme:

> *It didn't take us much to actually convert those marae to Para Kore because they already had drivers, they already had champions in the marae. And those champions are really precious, they're the gems of the marae: they change the whole people, you know, the society, the community. And you know, you may have a couple of drivers, a couple of champions in a marae and they can change a whole system* [J].

### *6.4.1 Burnout of 'champions'*

However, these 'champions' must be able to handle pushback against change. Burn-out of these drivers was frequently cited as a concern: "*again sometimes you* (over) *stretch yourselves"*[J]. It's not easy "*keeping the wheels moving, and sometimes it's hot and sometimes it's not"*[P]. Sometimes, there's *'that person that keeps bringing in those [disposable] coffee cups….and that's how you put the pressure on people who are making all these awesome changes and that person keeps bringing in their sushi container and coffee cup![laugh]"* [P]. "*What we've learnt from that is sometimes it's a lot of pressure for that one person as the*

*champion"*[P], because while *"the intention is always to share this responsibility, but it doesn't always work out like that. People are just in different stages of their life"* [J].

The back-up mentoring and educational materials that regional Para Kore *kaiārahi provide are* vitally important. *"What works well is the support that they give marae and the resources they provide [and] real, awesome signage that encourages people to recycle and to choose the right bins and stuff like that"* [M]. Materials are specifically aimed at Māori which means:

> *you can message it a little more meaningfully….it doesn't have to be about the bottom dollar: that actually there's a bigger a picture. Yeah, so the decision can be easier and a bit more meaningful and a bit more heartfelt* [P].

Growing recognition of the Para Kore approach helps understanding: "*When you say 'Para Kore' now, everyone knows what it is. It's because it's in all marae, you seen the sign, you see the brand, you know what* [to expect]*"* [M]. Participants also valued the opportunities Para Kore provides to network with others, at the annual Para Kore hui for example, so "*they can see that they are not on that journey alone. That's the thing, any movement, is that if you feel isolated, then it feels like hard work"* [J].

### *6.4.2 The issue isn't cost or time*

Academic literature frequently highlights financial and time limitations as barriers to domestic waste reduction. However, within this study, cost and time constraints appeared less significant than might have been expected, possibly because in a more communal setting, many hands make light work. In the Papakainga where [M] and his 17 extended family members of all ages live together, each adult couple cooks just once per week, so reducing packaged convenience foods had not been an issue, rather a way to improve health outcomes. An example of a large marae event where reusable (rather than disposable) plates and cutlery were borrowed from another nearby marae further highlights the value of plentiful manpower:

> *...and all its going to take is some people dedicated to cleaning them, you know. We've got hundreds of those down at the kitchen scrambling for a plate to dry, or to wash, because there's so many of them! We've got no shortage of people willing to help to do the mahi* [work], *that's not a problem* [M].

Financial savings at household and organisational level were identified by participants. In one region with costly public waste collection, cost saving was a clear driver: "*Getting rid of skip bins was a major. From all our maraes….Yeah, totally. You know what drives them is the money side of it"* [H]. Cost-savings also enticed corporate buy-in for the *konae* initiative at Te Wānanga where, *"we are removing all rubbish bins so there won't be any rubbish liners needed anymore from the cleaners, which cuts back a huge cost"* [P]. At a household level, a mother

spoke with relief about how school lunch costs had reduced from $160 per week to $30 per week:

> P: *"Yeah, and our kura - my kids go to Māori school, and they are currently engaged with Para Kore, so a note went out this year that no plastics, no wraps are allowed into the school."*
> Me: "For the lunches?"
> P: *"Yeah, we already do... so you are not allowed chocolates or anything unhealthy so that is part of the policy when you go to that kura. So, we moved into that space. so, I found these really cool lunch boxes. Not buying all those chippy packets, yoghurt packets. I would have spent $160 just on lunch just on lunch sort of products. And now my kids eat cucumbers, apples, oranges. I just buy some popcorn bags you just..."*
> Me: "Cook in the microwave?"
> *P: "Yeah, yeah so I'd buy a box of those that last 2 weeks, and then I heat a whole bag up that last 2 days, and I have 2 kids so I make banana loaf , cut that up, it lasts for a couple of days, so our grocery shopping just for lunches is like $30 a week now."*
> Me: "Mm mm…"
> *P: "Cos its mostly veges and fruit and they love them, they ..."*
> Me: "Because their peers are also having the same sort of things?"
> *P: "Yeah, I used to buy them all these individual yoghurts and cracker bags, you know crackers, I still buy crackers but bulk."*

Nevertheless, cost-saving is not seen as the main focus. Significant motivation comes from caring for the natural world and consequently also for future generations: *"I want to learn how to make washing powder, laundry powder, not only for costs but for the waterways"* [P].

However, not everything works as another mother explained!

> *Yes, toothpaste, we tried it. Okay, you know those are things, even baby tried it, with the baking soda. She didn't have a problem [laugh] but some of us did! And, those sorts of things, eh? It's a journey, and if it's not working , then let's ease back on this and try something else. You know, shampoo and conditioning bar soaps or whatever.* [J]

### *6.4.3 Resistance to change*

Resistance to change appears more of a challenge than cost or time constraints. *"Just changing the ways things have been, because, you know, this is how it has been, people are resigned to the fact that that's how it will be"*[M]. *Manaakitanga* [looking after visitors] is a central responsibility of marae. The importance of fulfilling this responsibility can lead to reluctance around changing tried and tested practices of feeding large numbers of people, even when these practices produce considerable waste. Despite a sense that for *"quite a lot of others it* [change to practices creating less waste] *would be like a breath of fresh air,"* one participant acknowledged that "*people get quite comfortable with what they are used to. You know, just not having it how it was will be quite challenging for a lot of people"* [J].

The security of familiar marae processes and systems means that *"Sometimes Para Kore isn't so much of a priority as having a kitchen that's functioning to carry out Manaaki. Manaaki, that's the priority"* [J]. Despite *kaitiakitanga* being incorporated into marae philosophies, "*for years and years there was no thought about [waste]." "Kaitiakitanga - all our marae practice it. All our marae practice it. Para Kore may not be at the highest priority but don't get them wrong, marae are practicing kaitiakitanga"* [J]. Understandably however, waste minimisation is a lower priority when:

> *They are just trying to do the basic thing, which is the most important thing in our culture, is Manaakitanga. They're trying to just feed people, that alone is epic. You don't know the people, how many people are coming through, then you've got to feed them three times a day* [J].

## 6.5 Waste as a shared national concern: similarities and differences

I, the non-Māori writer of this report, began my own similar journey 3 years ago to a zero waste lifestyle, driven not primarily by cost but by a need to care for our common future. It was apparent that participants valued the feeling of solidarity in knowing that New Zealanders, Māori and non-Māori alike, are on the same waste minimisation journey.

Environmental concern was framed by participants as a national trait. *"It's the green New Zealand way"*, [P]commented, while [J] expressed surprise to find that: *Going to a university (…) and then meeting my friends, non-Māori friends (…)taught me that actually my non-Māori friends were just as passionate about their connection with nature, with the natural world*. Moreover, participants identified a shift amongst both small New Zealand businesses and larger corporations towards a 'greener' approach. *"I tend to hope that NZ is quite green aware anyway, so when you like go into a restaurant and they're like, please limit [use of straws],"* [P]. The same participant expressed pleasant surprise that:

> *What we found with (….) who are our cleaning company (….) they said organisations are all moving into this space, and we really support it. If we don't support it, we know we will just lose business* [P].

Nonetheless, all participants identified their outlook had a deeper underpinning. *"There's a bigger picture when you add in tikanga and for Māori it's more of a holistic approach, but I think we as New Zealanders [all feel] it's acceptable"*[P]. This holistic approach came from *"the kaitiakitanga space. They are my brothers and my sisters, they are my mother and my father"*[J]. When questioned about whether Māori might find it easier to adopt a zero waste ethic, participants identified their deep sense of obligation to previous generations:

*I think the only real difference for us is that we actually have these taonga* [treasures] *handed down to us, these treasures from our ancestors, that are gifted to us and that we are obliged to take on, whereas other cultures don't really have that* [M].

One such *taonga* is *Te Reo*, the Māori language, which cements this sense of purpose:

*That Reo that we have speaks to our ancestors, it speaks to Papatūānuku. Because why? Because our metaphors are all about our environment. Our language is of old, and our language actually speaks more that we are part of nature than that we are separate* [J].

Yet, as this interchange (below) between the writer and a participant shows, horror at some types of plastic single-use packaging certainly crosses cultural barriers!

*M: "One thing I really want to get rid of is single-serve butters. "*

Me: "Ugh, I can't bear those!"

*M: [laugh]" I'm just like, man, 'cos they are so easy to slip into the pig food and you end up emptying the pig bucket and there's a dozen little plastic things in there that the pigs will probably eat!"*

Me: "They are crazy, aren't they? I mean, whoever invented them ought to be forced to go and pick them up around the world."

*M: "Yeah, [sarcastically] 'super convenient', they are 'super convenient'"!*

## 6.6 Conclusion

The findings illustrate that the Para Kore approach goes well beyond merely reducing waste. The effectiveness of Para Kore lies in its ability to generate intrinsic motivation in householders to adopt less wasteful behaviours. In contrast to New Zealand's mainstream technocentric policies reliant on the business sector taking voluntary measures alongside public campaigns using extrinsic motivation to change behaviours, Para Kore provides a holistic model that transcends the mere reduction of waste-to-landfill to incorporate improved physical, mental and spiritual health outcomes. Furthermore, the Para Kore approach frames waste minimisation as a continuing shared journey that leads to political, cultural, and community empowerment. However, while the model creates transformative change, roll-out is slow. The main limiting factor is not so much cost and time, as the energy of individual 'champions' to drive change through face-to-face encounters. The following chapter considers the relationship of Para Kore to other waste minimisation models and its significance for achieving a zero waste New Zealand.

# 7 DISCUSSION & CONCLUSIONS

## 7.1 Introduction

This research aims to explore how the Para Kore approach to zero waste may offers answers outside of the failing mainstream state-led and market-driven waste minimisation strategies. The discussion that follows is a synthesis of practicalities and politics as I analyse how the Para Kore approach provides a missing element to current approaches to waste minimisation in New Zealand. The chapter first outlines in Section 7.2 how political adherence to a neoliberal outlook challenges zero waste aspirations. Section 7.3 then summarises how Para Kore offers an approach that transcends neoliberalism by creating holistic change for householders and building social capital. Para Kore's embodiment of an emerging post-neoliberal political narrative, The Politics of Belonging, forms the basis of Section 7.4. Section 7.5 considers challenges to nationwide adoption of the Para Kore model and offers a way forward. The necessity for synthesis between all four drivers of the economy for transformation to a fully zero waste New Zealand society is explored in Section 7.6. Finally, Section 7.7 draws conclusions and offers recommendations arising from this research.

## 7.2 Political barriers to a zero waste New Zealand.

Research in 2008 found that 87% of respondents believed that New Zealand households generated too much waste (Tucker & Farrelly, 2016). Since the state took over responsibility for waste in New Zealand over 100 years ago, the public have had an 'out-of-sight out-of-mind' disconnect from how their waste impacts society and the environment. Instead, local and national government are expected to resolve waste-related issues. Today's New Zealand Waste Strategy (2010) further de-emphasised the voice of the general public as well as that of local government, favouring the interest and worldview of business lobby groups (Hannon, 2018).

Concerns over the neoliberalisation of environmental governance of New Zealand's waste management arena were raised over a decade ago (Davies, 2009). The neoliberal reliance on market-driven solutions remains a concern today. For example, regardless of years of recommendations to the contrary, the government's continued ideological preference for funding business-led voluntary product stewardship schemes masks the fact they divert an insignificant 1.4% of waste from an annually growing national waste stream (Hannon, 2018). Current legislation still promotes the Waste Hierarchy model (Michael-Agwuoke, 2017) while both the business and state sectors increasingly advance the Circular Economy model as an overarching solution (Sustainable Business Network, 2018; Ministry for the Environment, 2018b). Despite the thirty-two constraints identified in Section 2.4 that work against

technocratic strategies embedded within a continuous growth economy, New Zealand's current waste policy framework still espouses the ability to separate waste generation from economic growth (Ministry for the Environment (2018b). Like the emperor who had no clothes, New Zealand's approach to waste minimisation fails to admit the obvious: environmental protection and a neoliberal political outlook are irreconcilable. Raworth (2017) suggests that to create sustainable economies we need to become 'agnostic' about economic growth. Certainly, searching for a solution to waste issues outside of a neoliberal framework appears of value.

Examples of indigenous knowledge being used internationally in the resolution of environmental issues exist (as alluded to in Chapter 3) but similar recognition has been slow to develop within the New Zealand waste sector. Furthermore, to date New Zealand waste strategies fail to recognise evidence that local contextualisation and intrinsic motivation is more valuable in creating sustainable behaviour changes towards waste than recycling promotions or fiscal incentives or disincentives. For example, in contrast to significant levels of funding to the business sector for schemes such as voluntary product stewardship (Hannon, 2018), a recent marine plastics tour organised by Ngata of invited overseas scientists to survey New Zealand coastal waters and provide evidence at public meetings failed to gain public funding: it was finally funded through the generosity of a European philanthropist (T. Ngata, personal communication, November 18, 2018). After a decade of significant waste reduction successes, Para Kore was this year funded into 2 further regions, but still has insufficient state funding to expand programmes across the South Island and to the final three North Island *rohe* [regions] (Para Kore, 2018, p 8).

## 7.3 What differs about the Para Kore approach?

The holistic aspect of the Para Kore approach sets it apart from state-endorsed mainstream approaches to waste minimisation. The Para Kore model of zero waste opens the door to enhanced personal physical, mental and spiritual health as well as building cultural identity. Practical zero waste practices were found to align with deeply-held cultural principles of *kaitiakitanga* and *manaakitanga*, cement connections with *tūpuna* [ancestors] and develop awareness of spiritual connections to the gods of creation and other living creatures Significantly, as individuals gain a sense of greater wellbeing and rediscover these connections to their culture and the natural world, an enthusiasm develops to share this transformative message with others. This intrinsic motivation, aligned to personal values and community principles, contrasts with coercive public waste reduction campaigns reliant on incentives or disincentives.

Furthermore, in place of state-driven public awareness campaign speaking *to* people, Para Kore staff and local volunteer 'champions' engage directly face-to-face *with* participants through practical hands-on education. Local champions are supported by regional *kaiārahi* who undertake regular training. At the same time waste audits provide marae and other organisations with feedback on the change that is happening. This approach is endorsed by Tucker & Farrelly's (2016) identification that waste reduction in New Zealand households would be enhanced by standardised waste reduction communications, regular feedback, and well-trained competent people. A further benefit of the direct face-to-face approach is its flexibility. In 2018, since the closure of Chinese and other Asian markets for plastic recyclates, Para Kore has been able to rapidly adjust its programme by 'tweaking' the message even more strongly to waste prevention and composting.

The ability to co-operate with others is central to humankind yet the neoliberal model fails to factor in societal values such as reciprocity, trust and the ability to work collectively for the common good (Raworth, 2017; Monbiot, 2016). In contrast to neoliberal waste minimisation strategies predicated on costs, profitability and competitive individualism, the Para Kore model awakens cooperative behaviours. Furthermore, while western culture frequently justifies continued use of packaging made from single-use disposable plastic by constraints on time, Māori start one step ahead in already having a communal culture who can come together for waste reduction initiatives. In one participant's proposal for a team plate-washing station at a large event to replace the use of disposable plates, it was clearly assumed that 'many hands make light work'. The Para Kore model creates opportunities for intergenerational support while honouring roles outside the mainstream economic model. This opens the door to the development of community gardens, recycling centres, repair cafes and *pātaka* [neighbourhood roadside 'pantries' for the free sharing of surplus food] building a 'gift economy' and revitalising the commons.

The hierarchical nature of Western 'sustainable resource management' generates an understanding of the environment as a depository of living and non-living materials for society's use. In contrast, the success of the Para Kore model develops from the way people become directly engaged in respecting and caring for the diversity of life as they understand their deep connections to surrounding ecosystems. "Changing our sense of how we belong in the world also depends upon finding better words to describe it" ( Raworth, 2017, p.118). For New Zealanders such as myself without Maori heritage, coming to terms with the concepts of *kaitiakitanga* and *manaakitanga* opens the way to understanding a deep connectedness and responsibility to each other and the natural world. At the same time the Para Kore model

provides local contextualisation, a further factor identified as important to successful household waste reduction.

Para Kore also heightens a sense of political identity, best understood by reconceptualising the economy using Raworth's (2017) quadrant (refer Fig 7.1 below) rather than the linear state-market axis reflective of the neoliberal worldview. By influencing the less acknowledged drivers of society, householders and the commons, I suggest that adoption of the Para Kore approach leads to three significant political changes. First, access to locally grown food and shared resources within a local community engenders non-monetary exchanges outside of the national economic system. Secondly, at an individual level, taking practical action to reduce one's waste and thereby do something to negate the negative social and environmental impacts of the business sector reduces feelings of powerlessness created by the New Zealand government's failure to protect the environment meaningfully. An increasing feeling of local sovereignty develops as householders regain a belief in their ability to determine outcomes and their right to a positive future. Thirdly, a thriving society is more likely to build strong political engagement (Raworth, 2018). Growth of community creates the opportunity for householders to exert collective influence at both a local and national level, pushing state actors to support waste reduction initiatives and boycotting businesses that do not minimise waste while supporting those that do.

Despite the inherently political side, the Para Kore organisation retains a quietly inclusive approach. Waste is viewed as 'our' responsibility not 'their' responsibility; the benefits of reducing waste and reconnecting with nature are left to speak for themselves. The founding value of *manaakitanga* is reflected in Para Kore's non-partisan approach, the absence of negative messaging, and respect for the integrity of others even those with differing views. This is reflected in the extraordinary humility of Jacqui Forbes, co-founder and CEO (personal observation). There is evidence of strong relationships with local and national state actors and the corporate business sector. Nonetheless, conceptualising and promoting an understanding of the 'whakapapa of waste' which identifies how western market-driven production and consumption contributes to environmental destruction, opens the door for alignment with an alternative political narrative.

## 7.4 Para Kore and the post-neoliberal Politics of Belonging

As Chapter 2 highlighted, the issue of waste alone suggests the need for a new political agenda. However, until recently there has been little sign of a realistic alternative to the neoliberal model, in which economies are viewed as balanced on a linear axis, impacted solely by the state

on one side and the market on the other. Yet, work by progressive thinkers such as economist, Kate Raworth (2017) and political commentator, George Monbiot (2016) identifies that this model of an economy only presents half the picture. Two further elements, 'Households' and 'The Commons', carry significant potential to strongly influence local and national economies as illustrated in Figure 7.1. Through this reconceptualisation of the mainstream model of our national economy, the post-neoliberal Politics of Belonging [7] takes shape, centred on the communal power of householders and a revitalised commons.

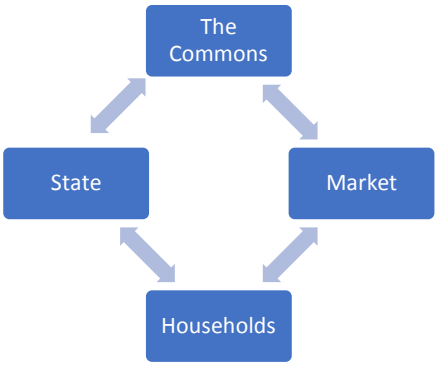



Figure 7-1 A 4-sector vision of the economy (adapted from Raworth (2017) and Monbiot (2017)).

The links between the empowering approach of Para Kore and the Politics of Belonging model are apparent in its transformative vision and its inclusive, non-partisan approach. Klug and Rees (2018) note how shifting from a neoliberal paradigm requires a strong vision from any new political offer about how things will be, not how things are. Bond & Exley (2016), initiators of the Big Organising approach, recognise that a new political paradigm must offer solutions as big as the problems we face. Without forgetting the past, Para Kore's inclusive and bold vision addresses both these issues: "We are passionate about, and committed to, a zero waste Aotearoa" (Para Kore, 2018, p. 3).

The Politics of Belonging movement seeks to radically re-organise democracy and economic life from the bottom up, enabling people to regain control by overthrowing the forces that have thwarted ambitions for a better society ( Monbiot, 2017). It is a transformation echoed by the food sovereignty and community-building narrative of Para Kore. Here in New Zealand, I am increasingly aware of growing public anguish as people realise how so much of what provides their comfort, ease and material resources is being enjoyed at enormous cost to the natural world. Yet without a clear sense of new direction, householders appear to see themselves as powerless to adapt their behaviours while household waste levels continue to rise. Shifting

[7] While the 'Politics of Belonging' name applies to both, this concept differs from that of Yuval Davis who focuses on ethnic and gender divides, although there are definite overlaps.

from the 'spirit-crushing neoliberal system' requires a story that will infect both sides of the political spectrum (Monbiot, 2018). The non-partisan and holistic Para Kore approach revitalises and re-sanctifies humankind's connections to each other and to nature, contrasting with neoliberalism's individualising ideology. By supporting cooperation to reduce waste, Para Kore gives practical credence to a post-neoliberal political vision.

## 7.5 Challenges to nationwide adoption of the Para Kore model

If Para Kore models a transformative political vision, could this be realised across New Zealand? Current waste minimisation strategies are solely a synthesis between the market and state, through government policies, council plans and voluntary business initiatives. Any role for citizens and communities other than as mere 'consumers' in a market-driven production system is at best downplayed and at worst ignored (Davis, 2009; Mataki, 2011; Geng et al., 2012). While the Para Kore model appears successful in creating momentum for reducing waste, my findings suggest that burn-out of the 'champions' presents a major obstacle to sharing the Para Kore approach more widely. The empowerment of individuals to adopt waste reduction behaviours rests largely on the shoulders of passionate individuals within marae and other organisations who volunteer to undertake education, motivation and facilitation of a waste reduction programme.

If burn-out creates an inherent challenge for achieving Para Kore's vision of a 'Zero Waste Aotearoa' but current strategies fail to significantly reduce waste, how can enough New Zealand householders develop a zero waste ethic to normalise waste minimisation within households and wider society? In contrast to Tucker and Farrelly's (2016) conclusion that mass household waste reduction is best achieved through a multi-layered state-led approach, I argue for the effectiveness of a face-to-face volunteer-led Big Organising model allied to the work of Para Kore. However, this suggestion lies outside the scope of this report and is thus confined to the Epilogue which follows this chapter.

## 7.6 A four-stranded approach to zero waste

Four elements affect the transformation of a national economy: Market, State, Households and Commons (Raworth, 2016). The twisted rope illustrated in Figure 7.2, that gains its strength from the integrity of each individual strand and the way they interact provides a model for how all four sectors of the economy must be integrated. A robust and sustainable zero waste economy with the capacity to generate widespread social and environmental wellbeing requires the integrity of all 4 economic drivers and their effective intertwining. While this research has focused on household waste reduction behaviours and revitalising the commons, this in no way

negates the essential nature of state and market actions if environmental catastrophe is to be avoided.

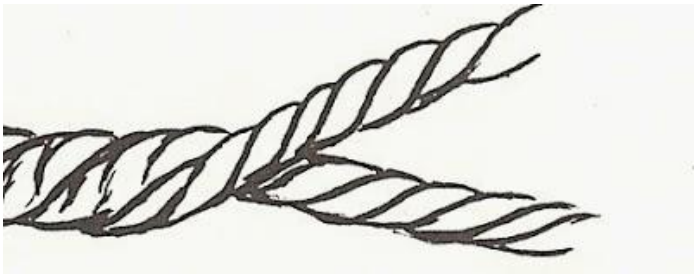


Figure 7-2: This rope's strength relies on the integrity of each strand and their interaction.

The New Zealand government remains under pressure from civil society to introduce regulatory measures through full utilisation of the provisions of the Waste Minimisation Act (2008) (Hannon, 2018; Blumhardt, 2018). A significant increase in the waste levy, mandatory product stewardship schemes, effective data collection, and a ban on many single-use plastic items are essential (Hannon, 2018). Suggestions for incentivising pro-environmental waste behaviours have also been made (Tucker & Farrelly, 2016) . However, I argue that constraints from neoliberal state and market agendas will limit improvements in such areas.

Neoliberal outlooks constrain state-led international waste reduction strategies too. For example, for the past few years states have suggested voluntary initiatives at the G7 World Economic Forum. Germany highlighted marine litter as an issue in 2015, echoed by Japan in 2016 and Italy in 2017, yet plastic production and waste continues to grow (Nowlan, 2018). International commitments are vital: country-by-country 'carrot and stick' regulations, voluntary business actions and occasional public campaigns are unlikely to create enough change within the urgent time frame remaining (Nowlan, 2018; Borrelle, Rochman, Liboiron, Bond, Lusher, Bradshaw, & Provencher, 2017). Adding plastic waste to the list of controlled wastes within the Basel Convention would ensure international trading in waste required notification by exporting countries and consent by importing countries (Centre for International Law, 2018). This could halt the neo-colonial shifting of plastic waste from the more affluent nations to developing nations but would not curb its source production. An international plastics treaty (Kirk and Popattanachi, 2018) to phase out oil-based plastics appears more useful. A high level approach of this kind, modelled on the relatively successful global CFC ban, would be a forward step in driving the attention and practical actions regarding waste (refer Fig 2.3) necessary for the achievement of the SDGs.

International investment in plastic production is set to increase by 40% over the next few decades (Center for International Law, 2018) yet at the same time there appears to be commitment from the international business sector to reduce plastic pollution. The 'New Plastics Economy', for example, has received high levels of support (Macarthur, E., Samans, R., Waughray, D., & Stuchtey, M. (2017); goals include international standardising of plastic types, making certain plastics obsolete, a standardised labelling protocol and the outlawing of poorly designed small plastic parts that leak into the environment such as bottle caps and individual sachets. 'Compostable packaging' design is also advancing as part of Circular Economy research. For countries with high levels of uncontrolled waste in the environment, at least climate-change induced storms and tsunamis will wash biodegradable materials into the environment rather than oil-based plastics!

Global civil society also drives change by pushing back against irresponsible state and business practices. In December 2017, when the Director of the UN Environmental Programme's stated his disbelief in the need for an International Treaty regarding plastic pollution along the lines of that applicable to toxic CFCs, many scholars, citizen-led movements and non-for-profit organisations across the world disagreed (Farrelly, personal communication, October 30, 2018; Kirk & Popattanachai, 2018). At a community level too, increasing demands to reduce wasteful business practices are exemplified by students from one middle school in India. They collected local litter which included 20,000 plastic food wrappers, half from a single multinational biscuit corporation, Britannia which they sent back, explaining that despite appreciating the product, they had no safe way to deal with the wrappers and requested the company provide eco-friendly packaging (Return to Now, 2018).

In the short time since proposing this research, I have noticed growth in the number and activity of local plastic-free and other waste-focused civil society groups in New Zealand too. Their reticence in confronting state actors and businesses is diminishing. While these groups and NGOs continue to campaign to change New Zealand's state and business practices, Para Kore has quietly been introducing systemic change at grassroots level. As Valenzuela and Bohm (2017) point out, countering neoliberal pushbacks to waste minimisation will require awakening of citizen awareness about the political nature of waste issues. In the New Zealand waste arena, findings that the adoption of the Para Kore approach engenders such political awareness opens the possibility of realising the vision attributed to Gandhi that "when the people lead, the leaders follow".

## 7.7 Conclusions

This research began by considering state-led and market-driven approaches for achieving zero waste outcomes and restrictions to their effectivity. A review of the literature indicates that technological innovations aided by state-led strategies at the national, international and local government level will continue to fall far short of what is necessary. Neoliberalism is a political system unlikely to satisfactorily curb waste production: too many contradictory factors limit the resolution of waste issues within the same system that created them. In New Zealand and overseas the necessity of fully engaging householders in locally contextualised waste minimisation processes has been largely overlooked. My findings from a qualitative case study of the Maori zero waste organisation, Para Kore, indicate that their alternative approach outside of state and market-driven waste reduction strategies may be practically and politically significant for the achievement of a zero waste Aotearoa New Zealand.

On a practical level, Para Kore's holistic zero waste approach provides an alternative methodology which sets it apart. State and business-led waste minimisation approaches often utilise coercive motivation through shame, approval, or financial incentives. In contrast, the Para Kore model engenders intrinsic motivation to work collectively to change wasteful behaviours. As understanding develops of humankind's connections to other living species and natural ecosystems, this transcends the neoliberal message of individualism and competitiveness that underpins western society. Research findings indicate that the Para Kore approach also seems to overcome commonly cited objections to zero waste behaviours: time and cost. Along with normalisation of reduced-waste lifestyles, Para Kore supports practical action by communities and individuals to increase their own health and wellbeing, localise food production and protect and develop community resources.

At a political level, the Para Kore approach builds social capital and empowers householders, organisations, marae and other community groups to take practical and political action towards a positive healthy future. Revitalisation of the commons and increased local sovereignty reduces the impact of corporate power and central state authority, a process echoing the emerging post-neoliberal political narrative, the Politics of Belonging. As an indigenous organisation, Para Kore's identity is uniquely its own and political buttonholing would be inappropriate, particularly from a non-Māori academic such as myself. Nonetheless, factors inherent in the Para Kore organisation lead me to suggest that the Para Kore model mirrors the principles implicit in this emerging political movement.

The Big Organising campaign model that has developed concurrently with the new Politics of Belonging provides a tool for reaching wide audiences with transformational political messages

without funding from state or business. The Epilogue that follows considers the use of the Big Organising model with a message aligned to that of Para Kore to reach more New Zealand households and proposes this as a specific area for action research. The main recommendation arising from this current research is that all those with a role in national and district-level waste minimisation fully recognise the significance of the work of Para Kore to the achievement of zero waste aspirations across Aotearoa New Zealand and moreover in creating a healthier, more connected society.

## EPILOGUE Reaching more New Zealanders: A Big Organising approach

As a New Zealand European, it is not my place to develop a path forward for the zero waste kaupapa developed by this Māori organisation. I stand as a respectful ally continuing to support and honour whatever journey the organisation chooses to take. From a post-development perspective, an obvious tension sits between recognising the value of this culturally-embedded approach and the suggestion it could be upscaled for other people and places. Yet without wishing to be reductionist, as a grandmother, passionate about seeing a flourishing future for all the children in New Zealand today, I am emboldened to outline a vision arising from this research.

Identification of how Para Kore echoes the Politics of Belonging paradigm opens a possibility to use the Big Organising campaign model. These connections are illustrated in Figure 7.3 below. This report has discussed significant ways that the Para Kore approach reflects identified 'best practice' in improving household waste reduction behaviours. I suggest there is potential for a nationwide volunteer-driven campaign allied to the Para Kore model to change all New Zealand householders' understandings and behaviours regarding minimising waste. This suggestion contrasts with the proposal for a multi-layered government-led campaign of public education identified by Tucker and Farrelly (2016) as the most effective way to scale up waste reduction behaviours across New Zealand households. The latter approach still sits within the neoliberal model that has failed so far, and as Albert Einstein is famously quoted as saying, "Problems cannot be solved with the same mindset that created them". To hope that a New Zealand government, whose 'presiding dogma appears to have been that environmental action is antithetical to and inevitably undermines economic growth' (Hannon, 2018, p.15), will somehow manage to create effective household behaviour change seems unrealistically optimistic. I suggest that it is time for an approach outside of the current neoliberal model.

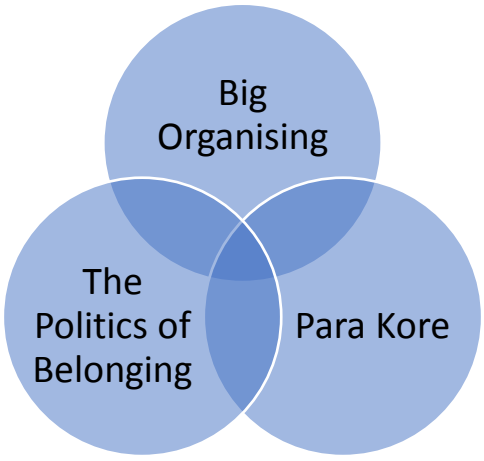



Figure 0-1: Interface of Para Kore approach with emerging political ideas.

Big Organising is an approach that has already proved successful in rolling out radical and transformative concepts at scale. Campaigns recognise that people are not so much moved by tv advertising and media messaging, instead 'what brings them round is a conversation with a real person, ideally a person like themselves, rather than a paid persuader' (Monbiot, 2017, p.169). People speak 'with' people not 'to' people. It is an approach that echoes the face-to-face approach of Para Kore; where it differs is in the mobilisation of thousands of volunteers to reach out to others on a on a one-to-one basis.

As identified in Section 2.6. successful Big Organising requires a central transformative vision. The model's founders, Bond & Exley (2016) say a campaign needs to point to a better future where everything changes through a message sufficiently radical to create an inclusive society, across age, ethnicity and gender that leaves no-one behind. 'Small organising' where the vision is merely incremental creates insufficient passion for people to get behind it on a voluntary basis (Bond & Exley, 2016). I suggest that Para Kore's vision is 'big'.

Use of Big Organising overcomes two issues identified as slowing the growth of the Para Kore movement, namely the burnout of 'champions' and the lack of state funding. In contrast to the long-term 'champions' required to promote the Para Kore message, the Big Organising model creates its own succession plan because the 'campaign baton' is passed on to those with fresh passion for change. In the Sanders campaign, new volunteers emerged through the outreach and were trained up by the preceding wave of volunteers (Bond, 2017). Leaders were not initially selected but instead emerged through the volunteering work, discovering skills they may not previously have been aware of (Bond & Exley, 2016). Such a process allows a smaller national team to facilitate and enable volunteer participation rather than control or drive small teams of volunteers to specific localities ( Klug & Rees, 2018).

The Big Organising approach also overcomes four identified challenges to promoting household waste minimisation in New Zealand (Tucker and Farrelly, 2016). Three of these factors, namely limited budgets, inconsistencies across NZ councils' policies and processes, and insufficient time to provide education are overcome by the Big Organising approach. Volunteer input allows relative independence from external funding sources and by the person-to-person volunteer approach, the message behind the campaign spreads despite lack of support from mainstream media, the business sector or the state (Bond & Exley, 2016). A zero waste campaign grounded in the intrinsic motivation that develops from empathetic understanding of humankind's connection and consequent responsibility to the natural world, would appear to overcome the other challenge identified, 'lack of training on how to influence behaviour change' (Tucker & Farrelly, 2016, p. 700).

The person-to-person model of Big Organising was found to empower those spreading the message. In the Sanders campaign, the act of volunteers talking with others, sharing their stories and listening to those of the citizens with whom they engaged, was identified as deepening their own understanding which strengthened their desire to commit to furthering the message (Bond & Exley, 2016). Further endorsement of the face-to-face approach for a zero waste campaign across New Zealand comes from Tucker and Farrelly's (2016) research: direct and personalised communication achieved the best results in reducing household waste. Respondents identified word-of-mouth from friends and family as a more powerful tool than information from media or internet campaigns.

Evidence indicates that a nationwide person-to-person zero waste campaign would have a significant level of interest. In briefing the incoming Minister last year, the Ministry for the Environment (2017, p.14) stated that:

> The subject of waste is a good way to engage New Zealanders in environmental conversations; waste is highly visible in people's everyday lives […] and, it is an area where people can easily act and do something about it themselves. For all these reasons, campaigns around waste tend to attract high levels of active engagement.

Concerns regarding waste and rubbish were cited by Tucker and Farrelly (2016) as being the second most pressing environmental concern to New Zealanders surveyed after clean water. Further evidence in the interest of New Zealand householders in waste reduction behaviour is found in the Zero Waste in NZ!' Facebook group who share with each other practical ways they have found to live waste-free; it has grown from 300 people when I joined in 2016 to over 22000 followers by 2019.

Any new movement must utilise today's style of participation which is "informal, collaborative, transparent, do-it-yourself, participatory but with short-term affiliations' (Green, 2018). The volunteer-led 'Barnstorm model' of public meetings (Bond & Exley, 2016) could suit a Big Organising zero waste campaign for New Zealand. The effectiveness of the Sanders campaign developed from the fact that participants attending such a meeting would be asked to sign up to hold their own meeting and around 10% were found to do so (Monbiot, 2017). Before they left the meeting, these new volunteers were asked to tell the audience what would make their meeting special; visualising their proposed event taking place assisted those events to become a reality (Bond & Exley, 2016). In just 7 months 100,000 volunteers held 100,000 public meetings and connected directly with 75 million Americans (Monbiot, 2017, p.169). There are 1,729,300 households in New Zealand (Stats NZ, 2018) and I suggest the same 'barnstorm' meeting concept (with a name more reflective of the New Zealand context) sharing

transformative practical zero waste methodology and underpinning philosophies face-to-face could reach them all.

Passionate volunteers could tie in a 'positive deviance' model, engaging positive role models to speak with their peers, to set up public meetings in different locations or for different audiences. Invited speakers selected as positive outliers in practising effective waste minimisation could share their own personal stories, thus promoting a zero waste message adapted to the needs of the audience. In this way a panel of farmers achieving waste reductions could be brought together to share their experiences with other farmers; a quartet of urban professionals, finding ways to prevent and minimise waste in their own organisations, could jointly inspire and challenge their peers; a panel of boat owners who had minimised waste generation could speak with others at a yacht club; or a panel of young mothers could encourage other parents.

Volunteers could also host small-scale meetings in their own front room, a café, or their lunch room at work, conduct a phone outreach, or develop a small team to go around the neighbourhood. The hosting of 'house parties' and door knocking campaigns were further features of the Sanders campaign (Bond & Exley, 2016). My personal experience as 'Zero Waste Granny' endorses potential in face-to-face outreach outside of public meetings. I regularly receive feedback that our interaction and respectful sharing of stories has enabled someone to alter their waste reduction outlook and behaviour. It is such interchanges, the small things that connect us, that George Monbiot (2017) describes as vital to a Politics of Belonging.

Formal training of volunteers is expected to be almost unnecessary; in the Sanders campaign it was reduced to a short video and a set of guidelines (Monbiot, 2017). The educational tools and practices of Para Kore have been well-honed over the past decade and are proven to be effective. I suggest the possibility of utilising this experience to provide guidelines, underpinning philosophies and practical tools to support a nationwide zero waste drive, driving an outreach to New Zealanders on a scale far exceeding that currently being achieved. A body of knowledge has developed around previous Big Organising campaigns around the world (Monbiot, 2017). Allying a campaign with the tools, experience and infrastructure of Para Kore could create capacity to co-ordinate the operational aspects and media interactions necessary to mobilise and facilitate self-generating waves of volunteers.

Once a zero waste ethic spreads amongst a community it appears that it will become self-promoting. Tucker and Farrelly (2016) describe a flow-on normalisation effect whereby the more householders engage in waste minimisation activities, the more others follow suit.

Monbiot (2017, p.50) indicates that once 15% of individuals in any type of community become involved in voluntary action, this type of behaviour becomes normalised across local society. While this research has identified that zero waste activities create a portal to wider outcomes of social wellbeing and deeper connection with the ecosystems that sustain us, widening the uptake of zero waste behaviours merits further exploration. To investigate whether a Big Organising model can engage at least 15% of households in zero waste behaviours, a pilot action research project in one district of New Zealand is recommended.

# REFERENCES


ACT Government. (2011). State of the Environment Report. Retrieved May 15, 2018, from http://reports.envcomm.act.gov.au/actsoe2011/people_waste.html

Alexander, S. (2012). Planned economic contraction: The emerging case for degrowth. *Environmental Politics*, *21*(3), 349-368.

Auckland City Council. (2018). *Draft waste minimisation plan 2018*. Retrieved from https://www.aucklandcouncil.govt.nz/have-your-say/topics-you-can-have-your-say-on/waste-minimisation-management-plan/Documents/draft-auckland-waste-management-minimisation-plan-2018.pdf

Australian Government. (2007). *Tackling wicked problems: A public policy perspective*. ACT: Commonwealth of Australia.

Berkes, F., Colding, J., Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. *Ecological Applications, (5),* 1251 -1262.

Bishop, R. 1998. Freeing ourselves from neo-colonial domination in research: A Māori approach to creating knowledge. *International Journal of Qualitative Studies in Education, 11*( 2)**,** 119-219.

Blumhardt, H., (2018). Trashing Waste: Unlocking the wasted potential of New Zealand's Waste Minimisation Act. *Policy Quarterly*, 14 (4 ), 13-26.

Bond, B (2017). *Applying the Lessons from Sanders Campaign to Progressive Politics*. Retrieved 20 November 2018 from https://vimeo.com/221628944

Bond, B & Exley, Z. (2016). *Rules for Revolutionaries: How Big Organizing Can Change Everything.* White River Junction, VT: Chelsea Green Publishing.

Borrelle, S., Rochman, C., Liboiron, M., Bond, A., Lusher, A., Bradshaw, H., & Provencher, J. ( 2017). Why we need an international agreement on marine plastic pollution. *Proceedings of The National Academy of Sciences of The United States of America*, *114*(38), 9994-9997.

Carden, Y. (2003). Solid waste-level rise on atoll nation states: A less publicised environmental issue in the Republic of Kiribati. *Australasian Journal of Environmental Management*, *10*(1), 35-45.

Catlin, J. & Wang, Y. (2013). Recycling gone bad: When the option to recycle increases resource consumption. *Journal of Consumer Psychology 23*(1), 122-127.

Cecere, G., Mancinelli, S.,& Mazzanti, M. (2014). Waste prevention and social preferences: The role of intrinsic and extrinsic motivations. *Ecological Economics, 107,* 163–176.

Center for International Environmental Law (2017). Fueling Plastics: New Research Details Fossil Fuel Role in Plastics Proliferation. Retrieved from https://www.ciel.org/news/fueling-plastics/

Center for International Environmental Law (2018). Support grows to control plastic waste in international trade treaty. Retrieved from https://www.ciel.org/news/support-grows-to-control-plastic-waste-in-international-trade-treaty/

Chan, J. ( 2016). The ethics of working with wicked urban waste problems: The case of Singapore's Semakau Landfill. *Landscape and Urban Planning*, *154*,(Special Issue Working with wicked problems in socio-ecological systems: More awareness, greater acceptance, and better adaptation), 123-131.

Chandra, D. (2014). Re-examining the importance of indigenous perspectives in the western environmental education for sustainability: From tribal to mainstream education. *Journal of Teacher Education for Sustainability*, *16*,*(*1), 117-127.

Corbridge,S. (1998). Development ethics: Distance, difference, plausibility. *Ethics, Place and Environment*. *1*(1), 50-53.

Corvellec, H. & Hultman, J. (2012). From "less landfilling" to "wasting less": Societal narratives, socio-materiality, and organizations. *Journal of Organizational Change Management, 25(2),* 297-314.

Corvellec, H. & Czarniawska, B. (2014). *Action nets for waste prevention*. GRI-rapport 2014:1: Managing Big Cities. Gothenburg Research Institute.

Corvellec, H. (2016). *Waste prevention in Sweden 2008-2015: An analysis of key waste prevention initiatives.* Department of Service Management and Service Studies, Lund University: Sweden.

Consumers International (2019). Built to fail: is planned obsolescence really happening? Retrieved from https://www.consumersinternational.org/news-resources/blog/posts/built-to-fail-is-planned-obsolescence-really-happening/

Cunningham, C. (2000). A framework for addressing Māori knowledge in research, science and technology. *Pacific Health Dialog, 7*(1), 7-9.

Dallmeyer, (2003). *Values at sea : ethics for the marine environment*. Athens, Ga. : University of Georgia Press.

Dann, C. (2010) 'Sewage, water and waste - Solid waste'. *Te Ara - the Encyclopaedia of New Zealand.* Retrieved from http://www.TeAra.govt.nz/en/sewage-water-and-waste/page-5

Davies, A. (2009) Clean and green? A governance analysis of waste management in New Zealand. *Journal of Environmental Planning and Management*, *52*(2), 157-176.

De Alba, A., Gonzalez-Gaudiano, E., Lankshear, C.,& Peters, M. (2000). The Search for Sustainability in Environmental Education. In *Curriculum in the Postmodern Condition* (pp.49-70). New York: Peter Lang Publishing Inc.

Dunsford, C. (2010). Para Kore: Xtreme Waste Whaingaroa. *Organic NZ,* (September/October), 46-47.

Eisenstein, C. (2011). *Sacred economics: Money, gift, and society in the age of transition.* Berkeley, CA: Evolver Editions.

Ellen MacArthur Foundation. (2015). *Delivering the circular economy: A toolkit for policymakers*. Retrieved from https://www.ellenmacarthurfoundation.org/publications/delivering-the-circular-economy-a-toolkit-for-policymakers.

Ellen MacArthur Foundation & World Economic Forum, (2016). *The new plastics economy. Rethinking the future of plastics.* Retrieved from Geneva: www.weforum.org.

Ellen MacArthur Foundation. (2018). *The Ellen MacArthur Foundation signs new agreement with UN Environment* [Press release]. Retrieved May 20, 2018, from https://www.ellenmacarthurfoundation.org/news/the-ellen-macarthur-foundation-signs-new-agreement-with-un-environment

Energy Globe. (2016). *National energy globe award 2016.* Retrieved Apr 25, 2018, from http://www.energyglobe.info/newzealand2016/

Environment Foundation. (2018). *What is kaitiakitanga? Environment guide*. Retrieved May 15, 2018, from http://www.environmentguide.org.nz/issues/marine/kaitiakitanga/

Escobar, A. 1995. *Encountering development: The making and unmaking of the Third World.* Princeton, N.J. : Princeton University Press.

Escobar, A. (2007). 'Post-development' as concept and social practice. In: Ziai, A. (ed.) *Exploring Post-development Theory and practice, problems and Perspectives.* New York, NY: Routledge.

Far North District Council. (2017). *Waste management and minimisation plan 2018 – 2023*. Retrieved from https://www.fndc.govt.nz/services/rubbish-and-recycling/2017-23-Waste-Management-Minimisation-Plan-adopted.pdf

Farrelly, T., Schneider, P., & Stupples, P. (2016). Trading in waste: Integrating sustainable development goals and environmental policies in trade negotiations toward enhanced solid waste management in Pacific Islands countries and territories. *Asia Pacific Viewpoint, 57*(1), 27– 43.

FitzHerbert, S., & Lewis, N. (2010). He Iwi Kothai Tatou Trust: Post-development practices in Moerewa, Northland. *New Zealand Geographer, 66*, 138-151.

Forbes, J. (2014). *Para Kore case study*. Retrieved from http://www.wasteminz.org.nz/wp-content/uploads/Para-Kore.pdf

Frain, S. ( 2018). *Waste colonialism and plastic pollution targeted in NZ 'pure' campaign* retrieved from https://asiapacificreport.nz/2018/02/14/waste-colonialism-and-plastic-pollution-targeted-in-nz-pure-campaign/

Geng, Y., Fu, J., Sarkis, J., & Xue, B. (2012) . Towards a national circular economy indicator system in China: an evaluation and critical analysis. *Journal of Cleaner Production, 23*, 216-224.

Gibson-Graham, J. (2005). Surplus possibilities: Post development and community economics. *Singapore Journal of Tropical Geography, 26*(1), 4-26.

Gibson-Graham, J. (2014). Rethinking the economy with thick description and weak theory. *Current Anthropology, 55*, 147-153.

Goven, J., Langer, E., Baker, V., Ataria, J. & Leckie, A. (2015). A transdisciplinary approach to local waste management in New Zealand: Addressing interrelated challenges through indigenous partnership. *Futures 73*, 22-36.

Government of the Netherlands. (2018). *From a linear to a circular economy*. Retrieved from https://www.government.nl/topics/circular-economy/from-a-linear-to-a-circular-economy.

Gower, R. & Shroder, P. (2016). *Virtuous Circle: How the circular economy can create jobs and save lives in low and middle-income countries*. Teddington, United Kingdom: Tearfund.

Green, D. (2018). *New Power: How it's changing the 21st century and why you need to know*. [Book Review]. Retrieved from https://oxfamblogs.org/fp2p/book-review-new-power-how-its-changing-the-21st-century-and-why-you-need-to-know.

Greyson, J. (2007). An economic instrument for zero waste, economic growth and sustainability. *Journal of Cleaner Production, 15*, 1382 -1390.

Hannon, J. (2018*). (Un)Changing Behaviour: (New Zealand's delay and dysfunction in utilising) Economic Instruments in the management of waste?* New Zealand Product Stewardship Council.

Hoffart, M. ( 2018*). 'We're landfilling about a billion containers': Zero waste pushes for drink container refund scheme*. Retrieved from https://www.tvnz.co.nz/one-news/new-zealand/were-landfilling-billion-containers-zero-waste-pushes-drink-container-refund-scheme

Hoornweg, D. & Bhada-Tata, P. (2012). *What A Waste: A Global Review of Solid Waste Management*. Urban Development Series, Knowledge Papers: World Bank.

Houde, N. (2007). The six faces of traditional ecological knowledge: Challenges and opportunities for Canadian co-management arrangements. *Ecology and Society*, *12*(2), 1-17.

Jacomb, C., Holdaway, R., Allentoft, M., Bunce, M., Oskam, C., Walter, R., Brooks, E. (2014). High-precision dating and ancient DNA profiling of moa (Aves: Dinornithiformes) eggshell documents a complex feature at Wairau Bar and refines the chronology of New Zealand settlement by Polynesians. *Journal of Archaeological Science. 50.* 24-30.

Jollands, N., & Harmsworth, G. (2007). Participation of indigenous groups in sustainable development monitoring: Rationale and examples from New Zealand. *Ecological Economics*, *62*(3), 716-726.

Kahui, V. & Richards, A. (2014). Lessons from resource management by indigenous Māori in New Zealand: Governing the ecosystems as a commons. *Ecological Economics, 102,* 1-7.

Kastrup, J. (1997). The Internationalization of indigenous rights from the environmental and human rights perspective. *Texas International Law Journal. 32,* 97-122.

Kawharu, M. (2000). Kaitiakitanga: A Māori anthropological perspective of the Māori socio-economic ethic of resource management. *The Journal of the Polynesian Society*, *109*(4), 349-370.

Kirk, E. & Popattanachai, N. (2018). Marine plastics: Fragmentation, effectiveness and legitimacy in international law making. *Review of European Comparative & International Environmental Law. 27*(3), 222-233**.**

Klug, A & Rees, E. (2018). Social Movements Big politics, big organising, and internationalism: How the left can win. *Renewal*, *26*(3), 50-60.

Lenkiwicz, Z. (2016). *Waste and the Sustainable Development Goals.* Waste Aid. Retrieved from https://wasteaid.org/waste-sustainable-development-goals/

Love Food Hate Waste. *Here's one easy way to tackle climate change that you may not know about*. Retrieved from https://lovefoodhatewaste.co.nz/heres-one-easy-way-to-tackle-climate-change-that-you-may-not-know-about/

Lukacs, M. (2017) *Neoliberalism has conned us into fighting change as individuals*. The Guardian Mon 17 July 2017. Retrieved From https://www.theguardian.com/environment/true-north/2017/jul/17/neoliberalism-has-conned-us-into-fighting-climate-change-as-individuals

Maiaiva, S., & King, T. ( 2007). Pacific indigenous development and post-intentional realities. In A. Ziai (Ed.) *Exploring post-development : theory and practice, problems and perspectives.* Abingdon, UK: Routledge.

Māori Television. (2016). *Online news: Para Kore initiative win Energy Globe Award.* Retrieved May 15, 2018, from https://www.Māoritelevision.com/news/national/para-kore-initiative-win-energy-globe-award

MacArthur, E., Samans, R., Waughray, D., & Stuchtey, M. (2017). *The new plastics economy: Catalysing action*. Ellen MacArthur Foundation.

Marshall, C., Smith, S., Henifin, K., Wheaton, J., Exley, T.(2016). *Nobodyz Trash*. Retrieved 9 Sep 2016 from http://www.winlsm.net/nobodyz-trash/

Mataki, M. (2011). *A critical assessment of the paradigms for solid waste management in Pacific island countries*. (Doctoral dissertation, Murdoch University, Australia). Retrieved from http://researchrepository.murdoch.edu.au/id/eprint/10893/

Mazzanti, M. & Zoboli, R. (2008). Waste generation, waste disposal and policy effectiveness. Evidence on decoupling from the European Union. *Resources, Conservation & Recycling*, *1*(52), 1221–1234.

McGregor, D. (2010). The earth keepers solid waste management planning program: A collaborative approach to utilizing Aboriginal traditional knowledge and western Science in Ontario. *International Journal of Canadian Studies*, *41*, 69-98.

McKinney, R. ( 2018). *Titiro whakamuri kia anga whakamua : the influence of whānaungatanga on student education*. (Thesis, Auckland University, New Zealand) Retrieved from https://researchspace.auckland.ac.nz/handle/2292/2952.

McLaren, S. (2007). *Defining a role for sustainable consumption initiatives in New Zealand*. Paper presented at the 2nd International Conference on Sustainability, Engineering and Science, Auckland, NZ.

Melosi, M.V. 2005. *Garbage in the Cities : refuse, reform, and the environment*. Pittsburgh: University of Pittsburgh Press.

MFE Japan (2005). *Japan's experience in the Promotion of the 3Rs: For the establishment of a sound material-cycle society.* Waste management and Recycling Department. Tokyo, Japan: Ministry of the Environment.

Michael-Agwuoke, M. (2017). *Approaches to improving data quality in municipal solid waste management in New Zealand*. (Unpublished doctoral dissertation). Auckland University of Technology, Auckland.

Migone, A. (2007). Hedonistic Consumerism: Patterns of consumption in contemporary capitalism. *Review of Radical Political Economics. 39*(2), 173-200.

Ministry for the Environment. (1997) . *National waste database*. Wellington: Ministry for the Environment .

Ministry for the Environment. (2010). *The New Zealand Waste Strategy: Reducing harm, improving efficiency*. Retrieved from http://www.mfe.govt.nz/publication-search?search_api_views_fulltext=waste+strategy

Ministry for the Environment. (2017). *Briefing to the Incoming Minister for the Environment: 'Environment portfolio'*. Retrieved from Ministry for the Environment, Wellington, NZ: https://www.beehive.govt.nz/sites/default/files/2017-12/Environment.PDF

Ministry for the Environment. (2018). *The packaging forum's soft plastic recycling scheme.* Retrieved June 4, 2018, http://www.mfe.govt.nz/more/funding/waste-minimisation-fund/profiles-of-funded-projects/soft-plastic-recycling-scheme.

Ministry for the Environment (2018a). *About the Waste Levy*. Retrieved from http://www.mfe.govt.nz/waste/guidance-and-technical-information/waste-disposal-levy/about-levy.

Ministry for the Environment. (2018b). *Redesigning our thinking - A circular economy.* Retrieved from https://vimeo.com/258906748.

Monbiot, G. (2017). *Out of the Wreckage: A New Politics in the Age of Crisis*. London: Verso.

Monbiot, G. (2018a) *Neoliberalism is dead: we need a new political story - George Monbiot*. [Video file]. Retrieved from https://www.youtube.com/watch?v=ARiaiyHrijw.

Monbiot, G. (2018b). *A New Politics for an Age of Crisis*. [Video file]. Retrieved from https://www.youtube.com/watch?v=rQvt0dkwBQw

Morrison & Munro (1999). Waste management in the small island developing states of the South Pacific: An overview. *Australian Journal of Environmental Management*, *6*(4), 232-246.

Murray, A., Skene, K. & Haynes, K. (2017). The circular economy: An interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics, 140*, 369-380.

New Zealand Treasury. (2018). *Budget 2019: Focus on wellbeing.* Retrieved from https://www.budget.govt.nz/budget/2018/economic-fiscal-outlook/budget-2019-focus-on-wellbeing.htm

Ngata, T. (2018, June 12). *Waka odyssey: Oceans in peril* [Radio podcast]. Min. 34.18 - 36.00. Retrieved June 20, 2018, from https://www.radionz.co.nz/audio/player?audio_id=2018645840

Nowlan (2018). *An international plastics treaty could avert a "Silent Spring" for our seas.* Canadian Environmental Law Association. Retrieved from: http://www.cela.ca/blog/2018-02-16/guest-blog

OECD (2017). *Environmental performance reviews: New Zealand Highlights*. Retrieved from http://oe.cd/epr-newzealand p://oe.

O'Leary, Z. (2014). *The essential guide to doing your research project*. London: Sage.

Oosterhuis, F., Papyrakis, E., & Boteler, B. (2014). Economic instruments and marine litter control. *Ocean & Coastal Management,102*, 47-54.

Para Kore. (2015). *He korero mō Para Kore* (Para Kore Profile). Raglan, New Zealand: Para Kore Marae Incorporated.

Para Kore. (2016). *He mahere rautaki mō Para Kore* (Business Plan 2016- 2020). Raglan, New Zealand: Para Kore Marae Incorporated.

Para Kore. (2018a). *What is Para Kore*. Retrieved May 20, 2018, from http://parakore.Māori.nz/para-kore/what-is-para-kore

Para Kore (2018b). *Pūrongo ā-tau mō Para Kore*. (Para Kore Annual Report 2017-2018). Raglan, New Zealand: Para Kore Marae Incorporated.

Para Kore. (2018c). *Our story*. Retrieved from http://parakore.maori.nz/para-kore/our-story/

Para Kore. (2018d). *Resources*. Retrieved from http://parakore.maori.nz/resources/

Para Kore Media (Dec 17, 2016). *What's Para Kore about? He aha tēnei te Para Kore?* [Video File]. Retrieved from https://www.youtube.com/watch?v=ga0JlSeQaCA

Para Kore Media (Dec 14, 2017). *Para Kore Hui ā-Tau 2017 in Kawhia* [Video File]. Retrieved from https://www.youtube.com/watch?v=3H81vWK4CXg

Patterson, J. (2000). *People of the land*. Palmerston North, New Zealand: Dunmore Press.

Pauling, C., Ataria, J., & Bezar, C. (2010). *Tiaki Para :a study of Ngāi Tahu values and issues regarding waste*. Lincoln, New Zealand: Manaaki Whenua Press.

Pereira Heath, M. T. & A. Chatzidakis (2012) Blame it on marketing: Consumers views on unsustainable consumption. *International Journal of Consumer Studies*, *36*(6), 656–67.

Pietzsch, N., Ribeiro, J. & de Medeiros, J. (2017). Benefits, challenges and critical factors of success for Zero Waste: A systematic literature review. *Waste Management, 67*, 324–353.

Radio New Zealand. (2017, December 5). *Soft plastic recycling scheme at risk* [Radio podcast]. Retrieved from https://www.radionz.co.nz/national/programmes/ninetonoon/audio/2018624196/soft-plastic-recycling-scheme-at-risk.

Ravilious, K. (2018). New Zealand's first city, uncovered. *Archaeology*. Retrieved from https://www.archaeology.org/issues/280-1801.

Raworth, K. (2017). *Doughnut economics: Seven ways to think like a 21st century economist*. London; United Kingdom: Random House.

Rech, S., Macaya-Caquilpan, V., Pantoja, J., Rivadeneira, M., Madariaga, D., & Thiel, M. (2014). Rivers as a source of marine litter: A study from the SE Pacific. *Marine Pollution Bulletin 82.* 66–75.

Reidy, M (2018). *Larger landfill levy and Aucklanders' laziness in sights of Govt recycling taskforce*. Retrieved from https://www.stuff.co.nz/business/104437737/larger-landfill-levy-and-aucklanders-laziness-in-sights-of-govt-recycling-taskforce

Return to Now (2018). *Indian students mail 20,000 plastic food wrappers back to manufacturers.* Retrieved from https://returntonow.net/2018/08/18/indian-students-mail-20000-plastic-food-wrappers-back-to-manufacturers/

Richards, E. & Haynes, D. (2014). Solid Waste Management in Pacific Island Countries and Territories in A. Pariatamby & M. Tanaka (Eds.), *Municipal solid waste management in Asia and the Pacific Islands : challenges and strategic solutions*. (pp. 255-279). Singapore: Springer.

Resource Management Act (1991). Reprint of Report (1998). Wellington, N.Z. : Ministry for the Environment.

Royal, T. (2007). Kaitiakitanga – guardianship and conservation - Kaitiakitanga today. *Te Ara - the Encyclopaedia of New Zealand.* Retrieved 1 June, 2018 from http://www.TeAra.govt.nz/en/kaitiakitanga-guardianship-and-conservation/page-7

Rudge, A. (1993). *Ko au te awa, ko te awa ko au : I am the river and the river is me : a collaborative anthropology which explores the relationship between a Hapū and the Whanganui River.* (Thesis, Massey University, New Zealand). Retrieved from http://hdl.handle.net/10179/6543

Sabbarwal, S. (2017). Indigenous Peoples' concerns for Environment: Examining the Role of Non-Governmental Organizations. *Fourth World Journal*, *15*(2), 27 – 39.

Salmond, A. (2017). *Tears of Rangi.* Auckland, New Zealand: Auckland University Press.

Satyro, W., Sacomano, J., Contador, J., & Telles, R. (2018). Planned obsolescence or planned resource depletion? A sustainable approach. *Journal of Cleaner Production, 195,* 744-752.

Scharmer, O. (2018). *Axial shift: The decline of Trump, the rise of the Greens, and the new coordinates of societal change*. Presencing Institute. [Web log message]. Retrieved from https://medium.com/presencing-institute-blog/axial-shift-the-decline-of-trump-the-rise-of-the-greens-and-the-new-coordinates-of-societal-b0bde2613a9e?fbclid=IwAR2mkX651ZlF8PkmWBUIhG9c9OhwqeIDI4RfjHAmlhK4KWItS6SZZ5VMDfc.

Seadon, J. (2010). Sustainable waste management systems. *Journal of Cleaner Production, 18,* 1639-1651.

Secretariat of the Pacific Regional Environment Programme (2009). *Pacific regional solid waste management strategy 2010–2015,* Apia, Samoa: SPREP.

Sparrow, J. (2018) *Recycling: how corporate Australia played us for mugs*. Retrieved from https://www.theguardian.com/environment/ commentisfree/2018/jul/19/ its-not-recycling-its-collecting-how-australians-were-sucked-into-the-crisis

Stats NZ (2018) *Dwelling Household Estimates.* Retrieved from http://archive.stats.govt.nz/browse_for_stats/ population/estimates_and_projections/ DwellingHouseholdEstimates_HOTPSep17qtr.aspx

Stewart-Withers, R., Banks, G., McGregor, A., & Meo-Sewabu, M. (2014). Qualitative research. In R. Scheyvens (Ed.), *Development fieldwork: A practical guide* (pp. 59-80). London, England: Sage.

Surak, S. (2016). To the perfection of waste: Utopian visions and reimagining managing. *Administrative Theory and Praxis, 38*(1), 5-18.

Sustainable Business Network (2016). *The Waste Levy, a waste of time?* Retrieved from https://sustainable.org.nz/sustainable-business-news/the-waste-levy-a-waste-of-time

Sustainable Business Network (2018). *The Circular Economy*. Retrieved from https://sustainable.org.nz/the-circular-economy/.

Takitini, T. *(1927). Whakatauki.* Retrieved from http://Māoridictionary.co.nz/māramatanga

Tennant-Wood, R. (2003). Going for zero: A comparative critical analysis of zero waste events in Southern New South Wales. *Australasian Journal of Environmental Management, 10*(1), 46-55.

Territorial Authority Forum. (2018). *Local government waste management manifesto.* Retrieved from https://www.wasteminz.org.nz/wp-content/uploads/2018/01/Local-Government-Waste-Manifesto-final-22012018.pdf

The Rubbish Trip. (2018). Zero Waste in New Zealand in 2018: A year in review. Retrieved from https://therubbishtrip.co.nz/thoughts-and-musings/zero-waste-in-new-zealand-in-2018-a-year-in-review/

Tolich, M., & Davidson, C. (1998). *Starting Fieldwork: An introduction to qualitative research in New Zealand.* Auckland: Oxford University Press.

Travers, M. (2001) *Qualitative research through case studies*. London: Sage.

Troschinetz, A. & Mihelcic, J. (2008) Sustainable recycling of municipal solid waste in developing countries. *Waste Management, 29,* 915–923.

Tucker, A. & Farrelly, T. (2016). Household food waste: the implications of consumer choice in food from purchase to disposal. *Local Environment, 21*(6), 682–706.

Tuhiwai Smith, L.(1999). *Decolonising methodologies*. London, England: Zed Books.

Tuhiwai Smith, L. (2012). *Decolonizing methodologies: Research and indigenous peoples* (2nd ed.). New York, NY: Zed Books.

United Nations Environment Programme. (2010). *Waste and climate change: Global trends and strategy framework*. Retrieved from http://wedocs.unep.org/handle/20.500.11822/8648

United Nations Environment Programme. (2015). *Global waste management outlook.* Retrieved from http://web.unep.org/ourplanet/september-2015/unep-publications/global-waste-management-outlook

Usher, P. (2000). Traditional ecological knowledge in environmental assessment and management. *Arctic. 53,(2),* 183–193.

Valenzuela, F. & Böhm, S. (2017). Against wasted politics: A critique of the circular economy. *Ephemera: Theory & Politics in Organization, 17*(1), 23-60.

Veolia. (2010). *World waste and recycling market worth $410 billion.* Retrieved from https://waste-management-world.com/a/world-waste-and-recycling-market-worth-410billion

Wakefield, P. (2007). Polymer advances in the interwar period: The impact of science on World War II. *Army Logistician*, *39*(2), 30-32.

Walker, S., Eketone, A. & Gibbs, A. (2006). An exploration of kaupapa Māori research, its principles, processes and applications. *International Journal of Social Research Methodology,* 9(*4*), 331-344.

Waste Minimisation Act. (2008). Retrieved from http://www.mfe.govt.nz/waste/waste-strategy-and-legislation/waste-minimisation-act.WMA.

WasteMINZ. (2018). Rebooting Recycling: What can Aotearoa do? Retrieved from http://www.wasteminz.org.nz/wp-content/uploads/2018/05/Rebooting-Recycling.-What-can-Aotearoa-do-FINAL.pdf

WasteMINZ (2018a) *Government policy changes action needed to enable effective waste management.* Retrieved from http://communityrecyclers.org.nz/wasteminz-press-release-government-policy-changes-action-needed-enable-effective-waste-management/

White, J. (2018). *Apple sued over slowing phones in France, where planned obsolescence is a crime*. Retrieved from https://www.independent.co.uk/life-style/gadgets-and-tech/apple-lawsuit-phones-slow-france-planned-obsolescence-legal-challenge-crime-a8132371.html

Wilson, D., Chowdhury, T., Elliott, T., Elliott, L., & Hogg, D. (2017). *A wasted opportunity: The case for changing the waste levy*. Auckland, New Zealand: Eunomia.

Woolf (2018). *Kiwis' recycling is piling up in Malaysia and being burnt in secret, environmentalists say*. Retrieved from https://www.stuff.co.nz/environment/109100190/kiwis-recycling-is-piling-up-in-malaysia-and-being-burnt-in-secret-environmentalists-say?

World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University Press.

World Economic Forum. (2014). *Towards the Circular Economy: Accelerating the scale-up across global supply chains*. Retrieved from http://www3.weforum.org/docs/TowardsCircularEconomy_Report_2014.pdf

Yin, R. (2009). *Case study research: design and methods*. Los Angeles, Calif.: Sage.

Yong, G., Jia, F., Sarkis, J. & Xue, B. (2012). Towards a national circular economy indicator system in China: An evaluation and critical analysis. *Journal of Cleaner Production, 23,* 216-224.

Zaman, A. (2012). Developing a Social Business Model for Zero Waste Management Systems: A Case Study Analysis. *Journal of Environmental Protection, 3,* 1458-1469.

Zaman, A. (2014). A comprehensive review of the development of zero waste management: Lessons learned and guidelines. *Journal of Cleaner Production, 91,* 12-25.

Ziai, A. (ed.) ( 2007). *Exploring Post-development theory and practice, problems and perspectives*. Abingdon, UK: Routledge.

## Appendix 1 Pushbacks and omissions: factors identified by scholars as incompatible with state-endorsed zero waste goals

*This table references Figures 2-4 & 2-5 on pages 17 -18.*

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | **Constraints to Waste Minimisation (see Fig 2.4, p.17)** | | | | |
| 1 | **Hidden Externalities** | The "privatise the profits/socialise the costs' model developed historically and is now embedded within western market-driven economies. Thus the social and ecological costs to re-use or dispose of items at end-of-life are not factored in to manufacturing profits. As waste minimisation/ prevention rarely aligns with the economic business case of maximising shareholder profitability, a neoliberal reliance on market forces to cut the polluting aspects of waste is ineffectual.<br><br>"However, it is accomplished, when costs of pollution are internalised, the best business decision comes into alignment with the best environmental decision" (Eisenstein, 2011, p 259). | "In waste and recycling, 'externalities' usually refers to costs borne by the environment or society and not included in the purchase price of the good or service" (Australian Government, 2010, p….).<br><br>Total externalised environmental cost of plastic packaging estimated at $40billion annually, exceeding the sector's total profit pool ( MacArthur Foundation, 2016).<br><br>'Throwaway products and packaging are possible because they are artificially cheap. Most of the costs of resource extraction and industrial processing to make the packaging are externalised, as is the cost of disposal in landfills and incinerators' (Eisenstein, 2011, p. 412).<br><br>*Illegal dumping of tyres (Territorial Authority Forum, 2017), disposal of construction rubbish in unregistered* | I. Neo-liberal political environment<br>II. Vested industry lobbying<br>III. Lack of citizen awareness | a. Extended Producer Responsibility/Product stewardship regulation of manufacturers/ suppliers to apply internalisation of the costs of end-of-life product re-use/disposal. Canada currently has 94 regulated product areas (Hannon, 2018). *"Mandatory product stewardship schemes are politically and logistically feasible (in NZ)"* (Blumhardt, 2018)<br>b. Pigouvian taxation (*tax set equal to the cost of the negative outcome to disincentivise pollution)*<br>c. Trade Barriers (*prevent import of goods with inappropriate packaging and goods without end-of-life protocols* (Mataki, 2011)<br>d. Use social and ecological costs as the standard for the creation of money by governments: "an intentional kind of money that embodies our reverence for the planet and our emerging sense of the role and purpose for humanity on earth. " (Eisenstein, 2011, p 259 )<br>e. Incentivise circular practices to create more efficient resource use (MacArthur, |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | | *dumpsites (Davies, 2009) rural waste (Hannon, 2018).* | | E., de Jong,S., van der Gaast, M., Kraak, J., Bergema, R & Usanov, A. 2016) |
| 2 | **Narrow definition of public interest with respect to waste** | There is a selective morality with respect to waste: the public interest is generally narrowly defined in terms of public health, ignoring social, sustainability and environmental factors. | *"The general de-emphasis of environmental imperative under NZWS:2010, is evidenced in not only the abandonment of aspirational waste minimisation targets, but also the lessening of progressive policies and programmes" (Hannon, 2018, p.28).* | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Greater dialogue between the government, the public and academia regarding waste issues (Hannon, 2018, p.27). |
| 3 | **Vested Interests – lobbying power of major suppliers of packaged food and beverages/ packaging manufacturers** | Industries that rely on disposable packaging that creates much of the world's domestic waste:<br>a. use marketing to shift public awareness of environmental responsibilities away from themselves onto 'litterbugs' ( a word first utilised by Coca Cola (Sparrow, 2018)).<br><br>b. Sponsor anti-litter campaigns to deflect public attention from their role as waste producers | Although litter forms only a small part of the growing waste issue in Australia, McDonald's and Coca Cola have been long-term supporters of 'Clean Up Australia' and 'Keep Australia Beautiful' anti-litter campaigns: these two manufacturers produced almost one in five items that went to landfill in Victoria in 2013 (Sparrow, 2018).<br><br>*"New Zealand provides an excellent case study, in which the lobbying of the packaging industry appears to have engineered an ascendant influence over government policy, with the result of subverting the public good, beneath its preference for 'institutional delay' of environmental programmes they oppose. This example bears the hallmarks of an apparent coordinated industry wide global strategy for* | Lack of citizen awareness that they are being 'duped' into a concern over tidiness and blaming others, in place of addressing root causes. | Greater government regulation of disposable packaging. Extended producer responsibility Blumhardt, 2018; Hannon, 2018). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | | *engineering influence over public policy, to delay / avoid /undermine the imposition of authentic producer responsibility programmes" (Hannon, 2018, p. 32).*<br><br>*"While many New Zealand industries support mandatory policies to address waste, the Packaging Forum does not, sometimes appearing to successfully halt policies otherwise garnering strong public and local government support (Blumhardt, 2018, p. 20).* | | |
| 4 | **Vested Interests – lobbying power of Plastics Manufacturers /Fossil fuel Industry** | Fossil fuel industry lobby promotes growth in plastic manufacture. | "There is no question that the plastic pollution crisis has become a pervasive and pernicious global problem threatening the integrity of the global commons, if not life itself ….It is the ugly twin of climate change – both are spawned, perpetuated, and buttressed by fossil fuel interests (Center for Environmental Law, 2017). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | "The way out of both crises is to reduce our reliance and dependence on fossil fuels – and that means applying the brakes on the reckless, devil-may-care expansion of the petrochemical industry in the United States and in other countries" (Center for Environmental Law, 2017). |
| 5 | **Sustainability as a marketing Brand for increasing consumption** | The 'green economy' has created a 'Zero Waste Gloss' (Valenzuela & Bohm, 2017, p.26), which has turned the unsustainability of the capitalist Western system into a brand that further promotes consumption. While this | Apple Corporation's 'Green by design' initiatives divert attention from planned product obsolescence (see below) I-phone marketed as something to be returned for recycling rather than seeing annual upgrades as appalling waste of resources (Valenzuela and Bohm, 2017) | Neo-liberal political outlook constrains state intervention. | Increase public awareness of this 'greenwashing' (Valenzuela & Bohm, 2017). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | fuels economic growth in adherence to the neo-liberal model, it runs counter to the waste prevention ethos. (Valenzuela & Bohm, 2017; Surak, 2015). | | | |
| 6 | **Planned obsolescence** | When products are created with a shortened life, greater consumption ensues from re-purchasing new models. | Apple found to be deliberately 'throttling' – slowing down and turning off features in older phones. (Valenzuela & Bohm, 2017; White, 2018; Satyro, Sacomano, Contador, Telles, 2018). | Neo-liberal political outlook constrains state intervention. | Development of regulations and consumer rights initiatives<br>E.g. - UN Programme on consumer information for sustainability; 2015 legislation in France prohibits "the practice of planned obsolescence, which is defined using techniques by which the person responsible for the marketing of a product aims to deliberately reduce the duration to increase the replacement rate' (White, 2018).<br><br>Development of repairable modular products e.g. 'Fairphone' Satyro, Sacomano, Contador, Telles, 2018).<br><br>Lease concept for phones so returned at end of use (Consumer International, 2019). |
| 7 | **Vested Interests – lobbying power of Nitrogenous Fertilisers/ Fossil Fuel industry** | Vested Interests - Nitrogenous Fertilisers Fossil fuel industry lobby to continue Nitrogen Fertiliser although compost is an urgently required soil enhancer | | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Improved soil quality from use of organic waste, improving our farm productivity and improving water quality as a result of better soil moisture retention and the need to use less fertilisers (Territorial Authority Forum, 2018, p.4) |
| 8 | **Vested Interests – lobbying power of** | Industrialised production has spawned a symbiotic waste management sector with an | *Large scale anaerobic digesters for food waste promoted in Auckland long term plan despite evidence that* | Corporate lobbies | Increase democratisation of waste policy framework by involving all stakeholders (Blumhardt, 2018,; Hannon, 2018). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | **Waste Management industry** | annual economy predicted to be worth $375 Billion by 2025. A strong political lobby, focused on maintaining its market share, counters moves towards waste prevention (Closed Loop Partners, 2018).<br><br>Recycling is preferred to prevention as it provides a chance to add value. The more powerful the waste industry gets, the less chance there is of waste prevention.<br><br>Governments fail to acknowledge how they play down the voice of other stakeholders. | *community composting would be socially and environmentally more effective (Richard Wallis, August 2018, personal communication).*<br><br>*The 'rejection in the NZWS (2010) of the terminology and concept of zero waste appears as a direct response to partisan business/industry lobbying" (Hannon, p.29).*<br><br>*In 2016, a WasteMinz ( group set up for actors in the waste sector, both corporate and non-corporate) employee contacted me and other leaders of plastic-free groups in NZ offering to be a central contact point for all campaign groups around NZ. This resulted in effectively disempowering wider local community activism (personal observation ).* | Neo-liberal governance<br><br>Corruption | The "vexed issue of vested interest lobbying deserves a thorough and independent examination: (Hannon, 2018, p. 30). |
| 9 | **Privatisation and regional fragmentation create differing systems across NZ** | Local government actors are left to create their own individual waste management strategies. | *In my own Far North District Council, the recent Waste management and Minimisation plan 2017 – 2022 was created exclusively by a single private waste management consultant. Stakeholder input from communities and individuals was left until the plan had been all but finalised and resulted in minimal changes. One change out of 18 suggestions from my own group was put in the plan, an annual stakeholder meeting for each ward, but 18 months* | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | National policy framework that is created after consultation with all stakeholders and community interests that has measurable targets (Blumhardt, 2018; Hannon, 2018). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | | *later has not been held in any ward despite persistent requests (Personal observation).* | | |
| 10 | **Local govt authorities manage waste but given no power over regulations to support this** | | *"A perceptible disconnect exists between central and local government perspectives "(Hannon, 2018, p.13).* | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | "Binding national standards for territorial authorities could help standardise best practice waste and recycling services, reduce regional variation and enable nationwide public information campaigns on household recycling and waste minimisation" (Blumhardt, 2018). |
| 11 | **Lack of a co-ordinated ZW vision across state/business sectors – failure to acknowledge and discuss waste as a 'wicked problem'.** | "Despite being unintentional, there is a tendency to focus on the most pressing immediate problems and discount the future. This 'availability bias' distorts decision-making by state actors, resulting in flawed judgements that can result in long-term and unintended consequences from decision-making regarding waste issues" (Chan, 2016). | "The wicked problem of waste as well as its negative impacts are not yet being systematically examined in planning and environmental design" (Chan, 2016, p. 123). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | "It is important, as a first step, that wicked problems be recognised as such. Successfully tackling wicked problems requires a broad recognition and understanding, including from governments and Ministers, that there are no quick fixes and simple solutions. Tackling wicked problems is an evolving art. They require thinking that is capable of grasping the big picture, including the interrelationships among the full range of causal factors underlying them. They often require broader, more collaborative and innovative approaches. This may result in the occasional failure or need for policy change or adjustment "(Australian Government, 2007).<br><br>"Ethics is necessary for a better understanding of the wicked problem of waste, which entails not only different adaptive strategies, but also commitments to large-scale environmental design projects" (Chan, 2016, p. 123). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| 12 | **Neoliberal political criticism of 'nanny state' encourages non-regulatory, voluntary measures by industry** | | *The neoliberalisation of environmental governance (is) present in New Zealand's waste management landscape (Davies, 2009).* | | See point 10 above. |
| 13 | **Single Issue Focus e.g. plastic bags to detract from the bigger picture of plastic pollution issues** | Refer point 11 – waste as a 'wicked problem' | | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Refer point 11 above – waste as a 'wicked problem' |
| 14 | **Fallacy of decoupling waste production from economic growth** | This conceptualisation contains an irresolvable contradiction between prescriptive regulation to ensure zero waste outcomes which risks stalling the economy, versus undermining sustainability by allowing economic growth, which then leads to environmental degradation from waste for which no-one is held accountable (Greyson, 2007)<br>Despite this, the decoupling concept is central to the Circular Economy framework (Murray et al, | *Decoupling was embraced in the first New Zealand Waste Strategy 2002 which aimed to "break the link between the amount of waste we produce and our economic growth, so that economic wealth is not achieved by trading off our environmental capital" (Ministry for the Environment, 2002).*<br><br>No evidence was found of delinking actually occurring in a study of 25 EU countries ( Mazzanti & Zoboli, 2008). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Create public awareness that this is a fallacy (Valenzuela & Bohm, 2017). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | 2017; World Economic Forum, 2014). | | | |
| 15 | **International Trade Agreements** | Restrict national capacity to control imported packaging or impose regulations on end-of-life responsibilities. | Mataki (2011)'s view of FTA's for Pacific Island nations is as a neo-colonial practice originating in colonialism. The trade-related lack of autonomy in controlling what enters island nations creates a counter-intuitive requirement to manage waste at the tail-end of a process without considering sources of those wastes. Free Trade Agreements are listed (along with climate change) as an 'emerging issue' in the 2010-2015 SPREP Report. Lower prices created by tariff removal were viewed as potentially creating a surge in imports of 'disposable' products; secondly it would no longer be possible to apply environmental tariffs on non-desirable items nor demand prepaid disposal fees; and thirdly, environmental standards might be cut by governments under pressure to encourage investment and local businesses forced to cut environmental standards to retain competitiveness (Mataki, 2011; Secretariat of the Pacific Regional Environment Programme, 2009, p9). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Amend trade agreements to allow autonomy on issues of imported packaging (Mataki, 2011). |
| 16 | **State-endorsed Waste Hierarchy model contains inherent inconsistencies** | There is an inherent contradiction within this model, 'pushing with one hand/pulling with the other' | The contractual symbiosis between domestic waste generation and re-use by industry was seen to discourage waste prevention within the Chinese | Neo-liberal political environment / | Ensure prevention is treated as a separate social issue, outside of the Waste Hierarchy (Corvellec, 2016). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | yet its simplicity encourages continued use by State Actors. Waste is valorised as a profitable material, worthy of recycling, therefore the more of it the better, but at the same time, waste is promoted as something to eradicate through waste prevention, which in contrast results in reducing the same profits (Corvellec, 2016)<br><br>(this issue is exacerbated by use of LCA tool – see Factor 8 below) | Circular Economy programme (Geng et al, 2011).<br><br>See section 2.2.1 for further details. | Vested industry lobbying /Lack of citizen awareness | |
| 17 | **State endorsed Life Cycle Analysis Tool de-prioritises prevention** | The widely-used life cycle assessment (LCA) tool used to choose between options within the Waste Hierarchy. However, it only covers the post-discard stage in the life of products so wastage areas within the extraction and supply chain have been found to be ignored. This leads to favouring recycling options. | Within the Chinese Circular Economy programme, adoption of the '3R' approach was found to have favoured recycling over reduction and prevention of waste at source. (Corvellec & Hultman, 2012). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | See point 16 above. |
| 18 | **Public campaigns bias public towards recycling in place of prevention** | Increasing facilities for recycling paradoxically leads to increased resource consumption. | When recycling facilities are given to subjects it has been found that they like to consume more to increase and promote sustainability (Corvellec, 2016; Catlin and Wang, 2013). | Neo-liberal political environment / Vested industry lobbying /Lack | Embrace targets for prevention and reduction not just recycling (Blumhardt, 2018). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | | | of citizen awareness | |
| 19 | **Remote locations and areas of small population render recycling unfeasible or expensive, yet state waste minimisation strategies tend to be universally applied** | | Pacific nations are constrained by long distances to secondary markets and populations too small to provide capacity for in-country processing. Import of manufactured goods creates an accumulative system with nearly unrestricted inflow of materials but restrictions on outflow so that residual waste increasingly flows to landfills, coastal areas and vacant lots. (Farrelly et al., 2016; Mataki, 2011)<br><br>*New Zealand's small, geographically dispersed population threatens recycling's economic viability, escalating transportation costs and constricting growth of onshore processors (Blumhardt, 2018, p. 14).* | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | See point 18 above. |
| 20 | **Lack of transparency in State-led waste management governance bodies** | | Waste Advisory Board in New Zealand is made up of unknown people carrying out unknown functions paid by the taxpayer ( Hannon, 2018, p17). | Neo-liberal political environment / Vested industry lobbying /Lack of citizen awareness | Create an independent outwardly focused public body which bears witness and is accountable to the NZ public ( Hannon, 2018, p.17). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | **Opportunities missed by NZ Government ( see Figure 2.5 p.18)** | | | | |
| 21 | **Adopt protocols for standardising of plastics** | This provides a way to actively restrict the use of products or materials for which there is no viable recovery pathway (such as some types of plastic) (Blumhardt, 2018). | | Resistance to implementation due to neoliberal political environment & vested industry lobbying | Under section 23(1)(b) of the WMA, the minister can control or prohibit the sale and manufacture of products containing specified materials (Blumhardt, 2018). |
| 22 | **Ensure accurate data collection regarding waste disposal, recycling and reduction** | Lack of data used as reason to avoid government regulation *(eg e-waste in NZ (Hannon, 2018, p 23)).* | *"Astoundingly poor data on waste also masks the scale of the problem" (Blumhardt, 2018).* | Resistance to implementation due to neoliberal political environment & vested industry lobbying | "Draw upon relevant international precedents in order to compare and contrast an appropriate selection of key performance indicators for NZ' (Hannon, 2018, p. 52). |
| 23 | **Regulate to address entire waste streams** | This issue is exemplified by how a focus on legislating against plastic bags has detracted from wider issues of single-use plastic packaging in NZ. | *E-waste, construction waste and farm waste provide examples of waste streams meriting attention in NZ (Blumhardt, 2018; Hannon, 2018).* | Resistance to implementation due to neoliberal political environment & vested industry lobbying | Mandatory Extended producer responsibility = refer point 1. |
| 24 | **Re-align the societal narrative which currently favours recycling over prevention by setting targets for waste reduction other than recycling** | Targets drive progress and maintain accountability and develop public awareness about possibilities for waste reduction. | Globally, targets for waste minimisation are becoming more severe (Hannon, 2018).<br><br>*The 30 targets for reduction of waste in the 2002 NZ Waste Strategy were removed in the 2010 update due to industry lobbying (Hannon, 2018).* | Resistance to implementation due to neoliberal political environment & vested industry lobbying | Bring in nationwide targets ( Hannon, 2018). |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| 25 | **Utilise WMA to regulate industry to shift burden of minimising waste from councils and individuals to industry, manufacturers and retailers** | This was what the WMA was designed for! | | Resistance to implementation due to neoliberal political environment & vested industry lobbying | *Fully utilise WMA ( Blumhardt, 2018; Hannon, 2018).* |
| 26 | **Standardise product signage: type of plastic/ quantity of recycled plastic/ end-of-life processing options** | Lack of standardised signage and understanding leads to a lot of items that could be recycled being wasted. It confuses citizens and businesses wishing to make ethical purchasing decisions and reduces recycling. | | Resistance to implementation due to neoliberal political environment & vested industry lobbying | Common labelling and chemical marking, aligned with standardised separation and sorting systems (Ellen MacArthur Foundation & World Economic Forum, 2016). |
| 27 | **Redefine public interest in terms of wellbeing and sustainability factors as well as economic regarding waste.** | There is a need for long-term sustainability in decisions made regarding waste (Chan, 2016).<br>We cannot ignore the more important rationale than current cost, that of whether it is the right thing to do, that the natural world is not ours to use as a limitless resource. | *This aligns with the proposed NZ 2019 Wellbeing Budget which will utilise the "Treasury's Living Standards Framework to inform the Government's investment priorities and funding decisions. The Government will measure and report against a broader set of indicators to show a more rounded measure of success, as a country and as a Government" (New Zealand Treasury, 2018).* | Resistance to implementation due to neoliberal political environment & vested industry lobbying | "Develop a holistic national cost benefit analysis (encompassing a balance of social, economic, cultural and environmental considerations) which models a reasonable selection of waste diversion and other relevant targets" (Hannon, p52). |
| 28 | **Consult extensively with all stakeholders including identifying a voice for non-** | Households form one of 4 key pillars of any economy, along with the state, the market & the commons (Monbiot, 2017). They are | *No consultation with stakeholders prior to engaging a single consultant to develop the Far North District Council Waste Management and Minimisation Plan 2018 – 2023. Public consultation* | Resistance to implementation due to neoliberal political environment & | "…central government must democratise how it listens. Particular areas requiring attention include overcoming the central–local government disconnect, and leaving greater room for volunteers, not-for-profits and |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | **human species as stakeholders** | major stakeholders in waste issues but rarely consulted (Mataki, 2011).<br>The needs of the living creatures within the ecosystems that sustain life on earth are not currently articulated in mainstream waste resolution discourse. Their needs remain unmet. | *after production of draft plan resulted in minimal change (Personal observation).* | vested industry lobbying | community recyclers" (Blumhardt, 2018, p. 23-24). |
| 29 | **Inform public about government power to bring in rapid improvements through WM Act** | Easy for vested interest lobbies to create disinformation regarding what is appropriate. | Public awareness about the WMA is "extremely low" (Blumhardt, 2018, p. 19). | Resistance to implementation due to neoliberal political environment & vested industry lobbying | |
| 30 | **Identify and promote the social and environmental benefits of localising food production as significant in waste minimisation** | Goods transported over long-distances generally require increased packaging which contributes to waste production. | | Resistance to implementation due to neoliberal political environment & vested industry lobbying | |
| 31 | **Ensure a nationwide waste reduction programme acknowledges and utilises household organic waste** | Much organic waste goes to landfill instead of being used as a resource.<br><br>"When food is thrown away it ends up being buried in a landfill. Here it decomposes without oxygen, and releases | *New Zealanders throw away 157,389 tonnes of food a year (Love Food, Hate Waste, 2019).*<br><br>*"Misappropriation of $600 M funds by Auckland Council" through Waste Management Corporation using inaccurate assessment of quantities of* | Powerful lobby from nitrogen fertiliser / fossil fuel industry.<br>Resistance to implementation due to neoliberal political | |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | methane – a harmful greenhouse gas which is by some measures 84 times more potent than carbon dioxide. This greenhouse gas traps and absorbs heat which slowly over time is raising the earth's temperature. Carbon emissions are also produced whenever food is grown, transported and sold" (Love Food,Hate Waste, 2019).<br><br>Composting – which has enormous advantages for improving soil structure and as a carbon sink to reduce carbon emissions - is overlooked in designing household waste management programmes | *compost produced from food waste (6T v 25T) to promote adoption of anaerobic digesters as creating better carbon profile. Failure to include figures from community composting exacerbated this. (Richard Wallis, personal communication Aug 7, 2018)* | environment & vested industry lobbying | |
| 32 | **Identify, define and promote options for waste prevention** | Prevention covers such a breadth of concepts, it is hard to grasp. The concept of recycling is much clearer and easier for governments and local governments to promote (Corvellec, 2016).<br><br>Not only do citizens appear not to discriminate between 'recycling' and 'waste | | Resistance to implementation due to neoliberal political environment & vested industry lobbying | See points 16 & 18. |

| | FACTOR | IMPACT ON WASTE REDUCTION PRACTICES: identification of the argument presented in the literature | DEFINITIONS & EXAMPLES presented in the literature *NZ examples in italics* | CAUSE/ unspoken discourse/ assumptions | POSSIBLE RESOLUTIONS – according to primary authors |
|---|---|---|---|---|---|
| | | prevention' but recycling wastefully-produced commodities as a way of finding meaning and value in today's material lifestyles. (Valenzuela & Bohm, 2017; Cecere et al, 2014) | | | |

Appendix 2: Information sheet for participants

Massey University
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

**Institute of Development Studies**
School of People Environment and Planning
Private Bag 11 222
**Massey University**
Palmerston North, New Zealand
**T** 64 6 3569099
**F** 64 6 350 5737
**Email:** pepadmin@massey.ac.nz

**Para Kore: an alternative voice for a Zero Waste world**

# INFORMATION SHEET FOR RESEARCH PARTICIPANTS

**Researcher's introduction**
My name is Jane Banfield and my home for the past 30 years has been in Paihia, Bay of Islands although I grew up in England. I am a grandmother, passionate about looking after the natural world for generations to come. I volunteer locally as a 'Zero Waste Granny', working alongside others to find ways to reduce rubbish heading into our oceans. I am also a post-graduate student completing my Master's in International Development. This research is supervised by Dr Rochelle Stewart-Withers from the School of People, Environment and Planning, Massey University, Palmerston North

**What is my study about?**
This study seeks to understand how the introduction of Para Kore education and resources to a marae or other organisation impacts understandings and practices about waste and I am extremely keen to hear your opinion and understand your experiences on the matter.

**What will participants be invited to do?**
If you would like to participant in my study I will look to meet with you for the purpose of sharing ideas about waste and how things may have changed with the introduction of Para Kore processes. It will be an informal discussion though at some stages I may suggest particular issues I'd be interested to hear more about, but at all times it is up to you if you respond or not. With your permission, I would prefer to record rather than take notes so I can focus on our conversation and so I can recount things accurately later.

With the permission of the marae I am also interested to see areas where you have begun to put Para Kore practices into action. I may ask for permission to take photos of recycling, composting and other waste management practices. *The whole meeting and walkaround would take a maximum of an hour.*

**What will happen to the recorded information?**
I will transcribe the recorded discussion into writing. All information will be treated confidentially. The data will be kept in a safe place, and password protected The written transcript of your own recorded interview will be available to you for you on request so you can changed or deleted anything which is not correct, or remove anything you no longer wish to have included. After the completion of the field research, I will provide you with a summary of the project findings. All of the information I gain from interviewing you will be used for research purposes only, in terms of the Masters thesis and ensuing presentations.

**Who else will be involved?**
This is a small study, taking place on just 3 marae in the North Island selected by Para Kore. I am the sole researcher, supported by my Supervisor, Rochelle Stewart- Withers, lecturer in Development Studies, Massey University.

**What are the benefits of the research?**
This research will lead to greater understanding of the processes and practices of Para Kore and how they compare with other waste minimisation approaches in New Zealand. Findings are expected to be of benefit to the Para Kore organisation and to the wider Zero Waste movement, including groups across the Pacific that may be interested in an indigenous local zero waste approach.

**Participant's rights:**
You are under no obligation to take part in this study but if you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study prior to or during the interview;
- ask for the recorder to be turned off at any time during the interview
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used, rather a pseudonym will be assigned unless you prefer that I do use your name. This same point also applies to naming the marae
- be given access to a summary of the project findings when it is concluded.

This is an independent study. Taking part does not affect any involvement you or your marae have with Para Kore. Thank-you for taking the time to read this information sheet.

*Nga mihi*

**Jane Banfield**

---

**Contact Details of Researcher and Supervisor**


- Jane Banfield; *Post:* P O Box 417, Paihia, Bay of Islands, 0247
  *Phone/text:* 022 018 33 66; Email: zerowastegranny@gmail.com

- Dr Rochelle Stewart-Withers; Institute of Development Studies
  *Phone* 06 356 9099 ext 83657; *Email.* r.r.stewart-withers@massey.ac.nz

## Appendix 3: Participants' Consent Form

Massey University
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

Institute of Development Studies
School of People Environment and Planning
Private Bag 11 222
Massey University
Palmerston North, New Zealand
T 64 6 3569099
F 64 6 350 5737
Email: pepadmin@massey.ac.nz

Para Kore: an alternative voice for a Zero Waste world

### RESEARCH PARTICIPANTS CONSENT FORM

I have read the Information Sheet and have had the details of the study explained to me.

My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

☐ I agree to the interview being sound recorded or /

☐ *I do not agree to the interview being sound recorded.*

☐ I would like a copy of the transcript of my recorded speech to check

☐ I would like a summary of the findings.

These can be sent to me at_____

**Signature** _____

**Full name** _____

**Date** _____